

NARRATIVE MUSICAL STRUCTURES:
A COMPOSER'S PERSPECTIVE ON
FORM, PROCESS AND PRODUCT

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A thesis submitted in partial fulfilment of
the requirements
of the
Manchester Metropolitan University for the
degree of
Doctor of Philosophy

Awarded for a Collaborative Programme of
Research at the
Royal Northern College of Music by the
Manchester Metropolitan University

2015

Abstract

My composition portfolio, developed over a three-and-a-half year period, is concerned with the development of expressive narrative musical structures. This is achieved through the creation of distinctive sound-worlds within two specific areas of compositional activity, these being original compositions and re-compositions. The portfolio of compositions itself stands alone as evidence of research inquiry; the following commentary, meanwhile, consists of a personal reflection on my compositional processes. Here, I explore the motivating impulses of both these processes and of the completed works.

This portfolio consists of ten original compositions and two re-compositions of an original:

Original Compositions:

1. *Alone* (baritone and cello)
2. *Light Upon Darkness* (5 players)
3. *Sonorization for Solo Clarinet*
4. *(...through the clouds towards the rising sun)* (piano)
5. *Glaciers* (strings, piano and percussion)
6. *Adrift* (amplified ensemble of 7 players)
7. *Embrace* (clarinet and cello)
8. *From Darkness* (string orchestra)
9. *Ambition: the Fury of the Blind Driver* (violin and piano)
10. *...to a beginning from no end* (original of a set of three including two re-compositions)
(oboe and piano)

Re-compositions of an Original Work:

11. *Thebes and the Burden of Rulership* (re-composition one of a set of three) (flute/alto flute, oboe and English horn)
12. *...to a beginning from no end* (re-composition two of a set of three) (baroque trio: baroque flute, bass viola da gamba and harpsichord)

Acknowledgements

I would like to thank:

My supervisors Dr. Martin Blain, Professor Adam Gorb and Dr. David Horne for their support and guidance;

Dr. Simon Clarke for his assistance;

The Sir Richard Stapley Educational Trust and the Sidney Perry Foundation for their financial support;

My family and friends for their constant encouragement.

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Introduction

This collection of original compositions reflects a common central theme: the sound-world, which in each case is the product of organised combinations of timbres.

Musical Timbre (or instrumental color, Klangfarbe, sound quality – there are many terms each with its own shade of meaning) has resisted the efforts of music theorists.

Timbre has been used in too many contexts to mean too many different things. If it is used to refer to the identifying sound of a musical instrument, as it is in the original French usage, it would seem that we would have to conclude that an instrument – say a clarinet – has a single timbre. But of course instruments have different “qualities” or “colors” in their different registers – the clarinet even has names for its various registers.¹

Although timbre can assume multiple shades of meaning, I am pursuing it as an “auditory phenomenon” as Wayne Slawson highlights in association with sound colour (a subset of timbre) in his article, *The Color of Sound: A Theoretical Study in Musical Timbre*. In the context of the portfolio, this phenomenon is one that embraces the identifying sounds of individual musical instruments and sound modifications through variations of techniques, registers, dynamics and combinations thereof. Expressive narrative musical structures within the works are embodiments of the combinations of timbral modifications; the applications of orchestration and counterpoint effective within a sequence or phrase. These applications are control devices that are the fundamental means through which phrasing in the music is determined; shaped and characterised.

Timbre in my music is made explicit through applications of counterpoint and orchestration. For its part, counterpoint is a principal component of sonority in my work and is informed by the varying relationships of vertical and horizontal relationships of different intervals essentially realising different timbral results; individual intervals (diads), trichords and chords of which contain such facets as resonances. These resonances are features of timbre in my music and rely to a certain extent on stark contrasts as a device to position and delineate individual timbres (resonances) of intervals within a given harmonic context.²

Intervals such as minor and major seconds and sevenths are incorporated to create tense combinations as opposed to perfect fourths, fifths and octaves which contribute relaxed, stable sonorities. These resonant features particular to the identity of individual intervals are amplified when dissonant intervals are closely arranged horizontally (melody) and/or vertically (harmony) with consonant and perfect intervals within a harmonic contextual setting. The intervals themselves generate distinct sonorous features within the fabric of the musical soundscape

¹ Slawson, Wayne, ‘The Color of Sound: A Theoretical Study in Musical Timbre’, in: *The Music Theory Spectrum*, Vol. 3, University of California Press, (Spring, 1981), 132-141 at 132.

² Varèse, Edgard and Wen-Chung Chou, *The Liberation of Sound* provides insight into the thoughts of Varèse on his own music. His particular approach to timbre informs some of my own approaches to timbre. Regarding contrapuntal arrangements information can be found on page 12.

while the use of contrast as an amplification mechanism is directly conducive to the organisation of acoustic timbral designs. The pitch relationships throughout every piece in this portfolio are a facet carefully considered, however, they are not constituted as a prearrangement of relationships that were assimilated as in the twelve-tone system for example. Trichord and chordal combinations though are organised as part of a network of timbral effects.

Where orchestration is concerned, tone colour is realised and controlled by the selection and combination of instruments, registers, dynamic levels, and instrumental techniques. Organisations of these elements are ordered in the interest of colour modification. Just as counterpoint consists of intervallic relationships serving effectively as vessels for timbre, orchestration contributes the specific instrumental arrangements and techniques by which timbres are realised and distinguished. These two dominant, influential elements are therefore the primary devices by which the sound-worlds to which I have referred are made manifest. It is the collections of contrapuntal and orchestrational applications within phrases of which the expressive narrative devices are composed; a series of timbral elements within a composition that effectively shape the overarching sound-world.

I embrace sonority as a means for crafting an overarching sound-world within each piece, comprised of a series of harmonically arranged and/or orchestrated sound colours. My compositional methods employ timbre as a means by which content and form are realised. The processes involved aim to differentiate between timbres and their resonant affects. Timbre is treated as a foreground element and is not merely incidental but a significant concept of which was partially informed by the thinking of Varèse, although not in the same broad-frame approach as timbre here is limited within the context of my work. He states:

The role of timbre would be completely changed from being incidental, anecdotal, sensual or picturesque; it would become an agent of delineation like the different colors on a map separating different areas, and an integral part of form.³

³ Varèse, Edgard and Wen-Chung, Chou, 'The Liberation of Sound', in: *Perspectives of New Music*, Vol. 5, No. 1 (Autumn – Winter, 1966), 11-19.

Compositions

1. Alone

Commissioned for the Judith Weir Festival in June 2011, *Alone* for baritone and cello was written in response to the poem of the same name by Edgar Allen Poe. Scordatura of the Cello's C string down a minor third, in conjunction with the cello part's generally high tessitura and multiple harmonics, accentuates the ethereal sound-world around the baritone before the music descends into the depths of the low register. While a variety of timbres are embedded within the music, reflecting the dark connotation of the text, the music evinces an ambiguous and obscure character.

2. Light Upon Darkness

Light Upon Darkness was composed for the London Sinfonietta during my participation in the St. Magnus Festival Composer's Course. Over a ten day period leading up to the première, the work was rehearsed and recorded. I took the work in progress into rehearsals where the performers were able to play through it, establish an understanding of the music and offer feedback. Listening to the music in daily rehearsals and from the recordings allowed me to perceive the timbres and sound-world of the music more accurately. This was especially effective as the new information shaped my decisions regarding the arrangement and production of the material and I was able to make effective adjustments to shape specific timbres. I tested multiple options concerning instrumental blending, pitch registers, muting, sul pont., harmonics and dynamics for generating timbres. I requested playback demonstrations of timbral techniques applied in various passages such as: timbral trills, hollow tone and flutter-tonguing for the flute, con sord., sul pont. and artificial harmonics for the violin and cello and flutter-tonguing and careful consideration of register for the clarinet. The bass drum rolls, vibraphone rolls and ringing resonances of the crotales were considered for sustaining colour shaping effects.

During the trial sessions, I varied these techniques individually for the separate instruments by adjusting their placement in the pitch registers, by varying the level of dynamics at the same time and blending between different instruments. I then proceeded to blend these techniques together in multiple ways for shaping specific timbres. Some examples of the results are found in bars 13-16 between the violin and cello. Sul ponticello applied to the cello line draws out high frequency resonances from the low pitches which blend effectively with the violin sonority sounding three octaves higher using artificial harmonics. This blend creates a distinct sonority

unique to the combination of these instruments and the applied techniques. This expressive narrative device is a primary characterising feature of the body of the sound-world of this work.⁴

Between the flute and the violin in bars 36-38 another type of timbre is created through a blend of artificial violin harmonics sounding in unison with the flute. Again, the result produces a sonority unique to the particular blend of these two instruments through the application of artificial violin harmonics and the fundamental pitches produced from the higher end of the flute's register. Another variant of this idea is also produced through a combination of three instruments, for example, in bar 47 between the flute, vibraphone, violin and cello. In this case harmonic density contributes to this particular timbre as the violin and flute play fundamental pitches in unison with the cello in the same register at an interval of a 4th below using artificial harmonics. The feedback from the performers informed my decisions as to how I was able to obtain the clearest and most effective results. The blending of instruments and applied techniques obfuscate the fundamental sounds of the individual instruments altering and controlling sonorities and ultimately unifying the instruments. As a result, a balance between two or more sonorities is produced.

Interacting with the performers and receiving immediate feedback reshaped my perceptions of the music daily and the constant reconsideration of the material allowed me to rehearse versions of a specific idea before making a final decision. Exploring developing material in this way has helped me to make well informed decisions about how to ultimately shape and arrange material. While writing the piece, this process influenced my decisions and contributed to the development and final realisation of the material.

3. *Sonorization for Solo Clarinet*

Interactive and collaborative processes undertaken while composing this piece significantly influenced both its musical material and ultimate realisation as *Sonorization for Solo Clarinet*. As opposed to writing music in a consistent, individualistic manner, my creative decisions in this instance were regularly influenced by feedback from the performer with whom I was working. The performer's expertise, from which I benefitted throughout, served to enhance the music at each stage of its development.

Sonorization for Solo Clarinet consists of idiomatic though experimental contemporary music that employs various extended techniques within its parameters and technical scope. And thus by acquiring a deeper understanding of the clarinet, and determining how best to integrate such

⁴ Read, Gardner, *Contemporary Instrumental Techniques*, New York, U.S.A: Shirmer Books, 1976. 56-59. Despite inevitably being out of date, this book provides useful information regarding applications of harmonics including a list of works containing contexts within which they are applied.

idiomatic techniques within the work, I sought to ensure in as much as it was possible the optimal performance. In this particular case, although I will focus on the sound-world theme, the actual process was prioritized in the interests of attaining the requisite familiarity with the instrument and its capacities. Indeed, as Sam Hayden and Luke Windsor, authors of *Collaboration and the Composer: Case Studies from the End of the 20th Century*, have suggested:

...a focus on collaboration may move the working style away from a tendency to prioritize the output of composition towards a desire to reflect on and improve the processes which come prior to this. Such a motive strikes against the traditional view of the composer's concerns, although as we have seen, such a traditional view may not represent the practices which composers have long engaged in. The stated ideology of many composers may still be that the aesthetic quality of the composition as notated, its *potential* for performance, is the main issue.⁵

Here, certainly, the nature of my processes was primarily interactive as opposed to directive (individualistic) or Collaborative (engaging in a collective decision-making process) and this accords with Hayden and Windsor's collation of case studies.

INTERACTIVE: here the composer is involved more directly in negotiation with musicians and/or technicians. The process is more interactive, discursive and reflective, with more input from collaborators than in the directive category, but ultimately, the composer is still the author.⁶

On this basis, the adopted interactive model included discussions, workshop-style meetings and each session was recorded. This was particularly useful when recalling solutions to prior problems and the decisions that were made. In reference to the discussion between composer Fabrice Fitch and cellist Neil Heyde regarding their collaboration, Neil states according to Anssi Karttunen, Finnish cellist and collaborator, that:

In a musical literature that's understood the performer's role primarily as a mediator between a composer or piece and an audience, very little attention is being paid to the performer's potentially significant mediation between composer and piece. When this role is brought into play early in conception the performer may take a vital inventive stance in which problems (musical ideas) are formulated and reformulated in tandem with their solutions. The composer and performer collaboration may thus become a science for playing out the dialogic aspects of artistic creation.⁷

During our sessions, the performer was the mediator between composer (myself) and the piece. As this role was assumed right from the onset, relatively musical problems were formed and reformed in tandem with their solutions. For example, I initially conceived of seamless phrases rising and falling in the register with integrated multiphonics. I envisaged the phrases to be

⁵ Hayden, Sam and Windsor, Luke, 'Collaboration and the Composer: Case Studies from the End of the 20th Century,' *Tempo*, Vol. 61, No. 240, Cambridge University Press, (April, 2007), 28 – 39 at 31

⁶ Hayden, Sam and Windsor, Luke, 2007, 33.

⁷ Heyde, Neil and Fitch, Fabrice: 'The Collaborative Process as Research: A performance of Fitch's "Per Serafino Calbarsi II: Le Songe de Panurge" with discussion of the collaborative process', in: *Practice as Research in Music Online*, <http://primo.sas.ac.uk/eprints/9/>.

strategically formulated around these sonorities (multiphonics) facilitating the highest possible quality of sound production. Even though, during previous sessions we discovered what multiphonics could be produced effectively individually, it was within a given context that the desired outcome proved either difficult or nearly impossible. Rather than omitting a given sonority in these cases, reconsideration of the surrounding content was necessary specifically referring to the approach and departure to and from the given multiphonic. Following this solution, the timing, and even dynamics became a secondary issue. The performer discovered practical solutions to achieving optimal sound quality where passages become technically complex by suggesting alternative fingerings, adjusting the tempo and dynamics to modify the reproduction of a multiphonic and by also adjusting tempos and dynamics to reproduce a passage encompassing wide leaps and octave displacement incorporating pitches that span the instrument's registral extremities. In relation to what was discussed between Fabrice and Neil regarding their collaboration, I presented ideas according to a preconceived plan and the performer was forced to look for new solutions on the instrument. I then had to face the problem of whether or not it was possible to perform them in a given context.

And during our meetings, the clarinettist additionally demonstrated rapid virtuosic passages spanning the extreme ends of the instrument's registers, timbral trills and stark dynamic ranges. Thus, I was afforded a great depth of insight into the spectrum of possibilities available to me having sought to shape the sound-world envisaged; and with this more grounded understanding, I was able to make informed decisions in developing material that was suitably idiomatic for the instrument and attenuated no less to the strengths of the performer's technical and musical abilities. These processes, discoveries and rediscoveries in collaboration with the performer conditioned my own creative techniques in linking and developing materials and creating a solid composition. The process of discovery and creativity within this working format closely represents the ways in which this piece came into being.

The dialogic format of this collaboration included the constant presence of the performer during the developing stages of the material. This approach facilitated the steady performability of developing content as the material was solidified. Heyde draws attention to the influence of the actual presence of the other party within the context of his own collaborative process with Fitch.

...in the case of an ongoing partnership that takes on a much more significant role, the presence of the other party gives their implicit voice as the embodiment and limits the tendency to lapse into quasi-dialogue with oneself.⁸

Before writing and collaborating, I began peripheral research on contemporary clarinet repertoire in order to broaden my understanding of the full range of the instrument's technical capabilities and overall sonorous character within varying musical contexts. This repertoire

⁸ Heyde, Neil and Fitch, Fabrice: 'The Collaborative Process as Research'

consisted not only of music for solo clarinet but also for chamber ensembles featuring the clarinet. Three works in particular, however, informed my principal ideas. One entirely composed of multiphonics, Salvatore Sciarrino's *Let Me Die Before I Wake*,⁹ was of great consequence given its strategic limitation. It struck me as an ideal demonstration of the versatility of the clarinet's technicalities. Helmut Lachenmann's *Dal Niente* and William O. Smith's *Variants for solo Clarinet*, for their parts, influenced my approaches regarding creative applications of extended techniques within a musical context. These pieces illustrate the creative exploitation of the gamut of the clarinet's extended techniques including key vibrato, multiphonics, singing while playing, muted notes, fluttertongue, glissandi and extremely quiet and even breathy tones.

Multiphonics are of particular interest to me because they generate manifold sonorities/counter-sonorities on an essentially monodic instrument. The sounds produced, indeed, are particular to this instrument and cannot be reproduced in the same way on any other instrument – they are difficult to control and what works on one clarinet, furthermore, may not necessarily work in the same way on another. On this basis, difficulties arise given that the reproduction of multiphonics is inconsistent and varies from performer to performer. I therefore carefully scrutinized the performer's demonstrations,¹⁰ and as some instances were more successfully reproduced than others I selected those of the highest quality, produced with the greatest ease. Although it was not my intention for the piece to be based on multiphonics alone, they are immersed within the context of the music. Conducive to colour contouring, they diversify timbres in this piece and create a distinct sound-world. Harsh, loud, abrasive sounds from the low register of the instrument juxtaposed against singing lines placed high in the instrument's register within a very quiet dynamic range in addition to the multiphonics portray a sense of broad dimension (pg. 1, bottom line into pg. 2, top line).

Melody lines frequently illustrate the quick exchange between opposite ends of the register. Wide leaps between pitches were made with very little difficulty. In some instances the lower register was set at a loud dynamic and followed or preceded by an abrupt wide leap into a very high range set at a quiet dynamic featuring two different timbres (pg. 1, line 5 from the fluttertongue on B and pg. 4, line 2, from the fluttertongue on C through to the *allegro* beginning on G). Similarly, as demonstrated on page one in line two and on page four in line two, the multiphonics are positioned at quiet dynamics following or preceding fundamental pitches set at a loud dynamic. The treatment of multiphonics was carefully considered as they

⁹ Although I am aware that this work is over 30 years old nevertheless, it provided me with insight into the particular type of clarinet sonority of which I intended to incorporate within the context of my own work.

¹⁰ Rehfeldt, Phillip, *New Directions for Clarinet*, Revised Edition, Vol. 4, Lanham, Maryland and Oxford: Scarecrow Press, 2003. This source provides a very useful fingering chart for possible multiphonic sonorities.

are not all produced clearly at the same dynamic ranges. Each multiphonic is set at the dynamic where it will sound most clear. Some allow for slightly more dynamic flexibility while maintaining the clarity in sound (pg. 1, line 3 and pg. 2, line 2 at the harmonic trills).

Contrarily, in other cases, low register lines are placed at a quiet dynamic and immediately followed or preceded by very high pitches at a loud dynamic (pg. 2, line 1 beginning at the A tempo on B and pg. 2, line 7 on G sharp on the third beat). Although, the latter appears more frequently as the pitches beginning at extremely quiet dynamics are more effective in producing ‘pinpoint’ sharpness whereas the contrasting stark and rough sounds come across more dramatically at the low end of the register at loud dynamics. In either case, both ends of the register produced at any dynamic are equally conducive to the overall contouring of the soundscape as pitches produced at the low, middle, and high end of the register will resonate differently and likewise when set at different dynamics. Four different timbres were achieved in each context regardless of the effectiveness for the purposes of contrast.

4. (*...through the clouds towards the rising sun*)

This was written in response to a commission for a new piano solo work inspired by Debussy’s Prelude no. 3 *Le Vent dans la Plaine*, a piece I find striking for its predominant sextuplet figures. They persist relentlessly throughout the entire prelude with only occasional interruptions by falling seventh chord quavers and abrupt, sweeping gestures. The sense of background and foreground, the hierarchies of Debussy’s material, I found particularly inspiring, and thus the prelude became a template of sorts as I wrote (*...through the clouds towards the rising sun*).

The luminous colours of the piano’s high register follow the introduction’s presenting of heavy, rising chords that grow out of the occasionally recurring, low E flat heard at the beginning. Around the low end of the register the opacity of the pitches conveys a sense of ambiguity, lacking clarity and focus. This is an essential timbre that establishes its significance against the upper-register counter-sonorities and equally, by dint of contrast, rendering the upper-register segments meaningful in their turn.

In combination with these effects, the contrapuntal content is also significant in establishing distinct sonorities within the harmonic context. Similar to the manner in which timbres pertaining to register are defined by opposition, this also holds true where dissonant intervals complement their consonant counterparts. They are embedded within harmonic sequences consisting of chords frequently aligning perfect consonances and dissonances. These timbral-sonorific relationships are essential to the delineation of the sound-world as it is their

oppositional natures that define the colour dynamic so fundamental to the sound-world's constitution.

5. *Glaciers*

Glaciers derives much of its sonic character through emulating the properties of drums through the sonorities of the marimba, harp, piano and bowed strings. The non-pitched percussion generates unique timbres within this ensemble of mostly pitched instruments, extending the low register with indiscernible, “sub-harmonic”¹¹ tones. As aligned with the thinking of Varèse, these indefinite pitches offer an unsuspected depth to the low end of the register. This treatment of the drums is especially unique within this portfolio to the contextual setting of *Glaciers*.

Positioned on opposite sides of the orchestra, the timpani and large bass drum begin with a call and response motif; and as this dialogue develops, subtle differences in colour are exploited precisely where articulation and projection are to be distinguished. The piece is thus designed around reproducing the attack and decay profiles that characterise these particular instruments. And this structural division is accordingly broken down and effectively treated as two separate motifs, the initial event and its resonant consequences.

While sound-colour attributes are explored for their own sakes by striking the drum heads in different places, including the rim (Ex: pgs. 1 – 3), the nature of the drum's sound production is manifested in the music as thematic material realised by re-orchestrated varieties of accented impacts and the extension and elongation of echoing resonances. These permutations serve throughout the work as fundamental building-blocks of the overarching structure of the work. The sound-world thus constituted consists of articulation variants such as abrupt, accented, dissonant string chords (Ex: bar 122) as against sustained string work, piano resonances, harp *bisbigliando*, and marimba *tremolando*s (variants of the natural envelope of decay), all of which are in addition to the combined sonic properties of the two bass drums and timpani themselves (Ex: bars 76-109 and bars 151 – 153).¹² An inspiring example to be acknowledged here is Varèse's seminal work *Ionization*, “the first work in which the acoustic components of percussion instruments are taken into consideration as the foundation of a musical form.”¹³ It must be acknowledged however, that unlike *Ionization*, rhythm, including texture, is not a primary concern within applications of orchestration or counterpoint, the primary components by which timbre is realised.

¹¹ Varèse, Edgard and Wen-Chung Chou, 1966, 13.

¹² François, Jean-Charles, ‘Organization of Scattered Timbral Qualities: A Look at Edgard Varèse's *Ionization*’, in: *Perspectives of New Music*, Vol. 29, No. 1 (Winter, 1991), 48 – 79. As noted in this source, timbre is constituted of more than a single occurrence and it must first be inscribed within a given context of sounds and the timbre cannot be separated from an instrument's articulation. It is by this mean that timbre assumes identity or becomes a timbral reality.

¹³ François, Jean-Charles, 1991, pg. 49.

6. *Adrift*

Written for amplified chamber ensemble, *Adrift* was significantly influenced by the virtuosic percussion piece *Trio per Uno* by Nebojša Jovan Živković, though I drew, in addition, from my previous work for percussion and orchestra *Glaciers* (which also served to inspire various other key components of this piece's content). How I chose to position the ensemble and the percussionists in particular, on the concert platform was, for example, principally informed by the performance directions of the *Trio per Uno*. Furthermore, it was the strikingly rhythmic and aggressive opening of the Trio that prompted me to explore the more continuous, aggressive and rhythmic articulations of the percussion section, as opposed to the frequent pauses, varied dynamics and expanding resonances that characterise *Glaciers*. And although atmospheres of sound are certainly of consequence through the work, responsive imitations or quasi-percussive resonances in the manner of *Glaciers* are a subsidiary concern. Rather, in this piece I aspired in general to a more belligerent, punctuated rhythmic approach, beginning within the percussion section and developing through the piano and string sections, in accordance with which the orbit of the sound-world necessarily shifts. The addition of pitch then draws in counterpoint, while register also asserts its influence on the altered body of sonorities.

Amplification modifies the instruments' natural timbres with a view to extending and expanding both their dynamic range and decay profile while the scordatura is conducive to the arrangement of the featured tri-chord cluster. The C strings of the two cellos and the five-string violin are detuned to A, A quarter-tone sharp, and B flat respectively so as to obtain a highly compact cluster-complex between the instruments' most resonant strings. This complex appears throughout the work in a variety of forms, for example at bars 15-19, where the dissonance is maintained between the two cellos, and through bars 20 – 22 between the violin and the cellos, where harmonics open out the range, setting the pitches an octave apart from each other (from cello 2 to cello 1 and to the violin). And in bars 24 – 28 in the violin line, the B flat open string is used as a double-stop maintaining the dissonant relationship with the cellos sounding A almost two octaves higher. One further example of a variant of this cluster relationship is to be found in the second half of bar 31 through the first half of bar 32. Here, the piano strikes B natural sounding below cello 1 on the detuned open A, accompanied by the violin and cello 2 at less than a semi-tone apart two octaves above.

Harmonic dissonance generates unresolved, prominent acoustic tension characterised by high speed, audible vibration-conflicts. Comparable to the roles of the bass drum and timpani in *Glaciers*, the piano's treatment similarly exhibits relations of articulation and resonance. Consistent with the underlying contrapuntal configuration of the harmonic material, the inherent and distinctive colours of the ringing piano strings reflect and complement those of the string section. And at the same time this role is further extended to the percussion section, allowing

for a call-and-response dialogue between the percussion and the responsive resonances of the strings. Thus, as instrumental colour emanates and is emulated through selected implementations of techniques and instrumental arrangements, it manifests a prominent timbral construct to which amplification contributes in a manner specific to this ‘acoustic’ landscape.

7. *Embrace*

Embrace encompasses material contrasts between dynamic and registral extremes, abrasive and effacing lines. Such striking and starkly-etched characteristics ultimately constitute the work, defining its shape and dynamic contours. The abrupt occurrences of rhythmically sharp, dissonant motifs shaped by widely displaced chords sound as double-stops in the cello, pitting themselves against piercingly high pitches from the clarinet. Fragments of these rough-edged motifs are dispersed throughout the contrasted developing material, interrupting the continuity of the counteracting smooth, sombre, melodic lines. The music exploits the ensemble’s wide pitch-range, adjacent extremes featuring as the music’s unsettling, yet defining expressive narrative.

8. *From Darkness*

The opening material exploits the lowest region of the ensemble’s register and starkly contrasts with that of the ending, concluding as it does at its highest extreme. As it happens, the overarching timbral structure of this piece closely resembles the registral outline of (*...through the clouds towards the rising sun*); though this corollary was not intentional, registral contrast nevertheless significantly influences the timbral shape of both.

The muted solo cello against the background of the resonance of the double bass section paints a richly resonant acoustic soundscape, and this contrasts effectively with the ethereal transparency of the work’s concluding material. Registral sonority is explored through the evolution of timbral devices and contrapuntal content, reproducing a variety of sound-colours and resonances that reflect the different tessituras of the ensemble.

The melodic (and related motivic) material remains almost consistently homophonic where lines follow the same rhythmic pattern (as shown in bars 11 – 13 between the violin II and viola solos, and in bars 34 – 36 between the viola and cello solos), and polyphonic where two lines follow separate rhythmic patterns (pages 9 and 10), as it develops through the piece. It is distinguished within the work’s timbral frame by the parallel motions of 4th and 5th, intervals that are not intended to function incidentally as a single melodic line with accompanying voices articulating an underlying harmony. Rather, by the nature of the intervallic resonances of the perfect intervals, they function as an expressive narrative timbral device, instrumental to the construction of the overarching sound-world.

Furthermore, the constitutive melodic material is characteristically inextricable from these intervallic resonances. Defining the relationship between the developing melodic lines (including related motivic material), these sonorities mark the timbral device as a principal shaping component, in addition to the pitch material's dynamic registral range.

9. *Ambition: the Fury of the Blind Driver*

Ambition: the Fury of the Blind Driver embraces relentless, high-paced and predominantly abrasive material. Timbral contouring within the sound-world is sketched by the frequent transitions between the ensemble's polarised registral extremes. Variation here is engendered through the decaying resonances of the piano's lower register contrasting with the stratified tessituras above.

The rough-edged nature of the material introduces stark, full sounding resonances in both the violin and piano, whilst the opening violin solo's content continues throughout the entire work. This continuity, however, consisting of fluent arpeggiations and linear chromaticism, is frequently interrupted by brief rests, abrupt occurrences of effacing, accented open Gs and by octave displacement. The timbral changes that do occur, as registral shifts, help articulate a sense of structure by way of contrast, thereby delineating adjacent sections.

In addition, the piano material introduces chordal progressions that are predominantly quintal and quartal as evinced by the treble and bass lines independently. Where these harmonies move together homophonically, the stable resonances obtain within the soundscape as strong, stable, definitive timbral identities. As in *Alone, Light Upon Darkness*, (...*through the clouds towards the rising sun*), *Adrift* and *From Darkness*, the piano material also colours the overall soundscape with a pedal-tone, ambient sustain at the lowest end of the piano's register. This in turn serves to complement the frequent interjections of the abrasive G from the violin. Although these attacks and sustains are conducive to the shaping of the work's timbral outline, their role is less prominent here than was the case in *Glaciers*.

Re-compositions

10. *...to a beginning from no end* – Original
11. *Thebes and the Burden of Rulership* – Re-composition 1
12. *...to a beginning from no end* – Re-composition 2

A set of three works, one original and two re-compositions thereof, are included in this portfolio. The set of three includes *...to a beginning from no end* for piano and oboe; this was the first of the group and stands as the original. The second piece is the first re-composition, *Thebes and the Burden of Rulership* for flute doubling alto flute, oboe, and English horn. Here, I sought to incorporate the original material while generating a new context around it, thus extending the whole and creating a new work. And the third of the set, the second re-composition, is entitled *...to a beginning from no end*; written for the baroque ensemble *Trio Aporia*, is scored for baroque flute, bass viola da gamba, and harpsichord. On this occasion, I expanded upon the original material through exploring different timbral combinations based on the original theme.

So, in rescoring this piece I sought to shape timbre by applying the same musical material to differing contexts and instrumental ensembles. This process of adaptation diversifies and develops the music's timbral spectra and in so doing re-models its character by way of its instrumental and contrapuntal combinations. Re-composing the material in light of the particular capabilities of specific ensembles and individual instruments necessarily means reconsidering register, dynamics, and all manner of technicalities/physicalities. Indeed, it was my explicit intention for these pieces in general to actualise the potential for timbral recasting and reshaping of the soundscapes involved. *Orchestral Combination: the science and art of instrumental tone-colour*, by Gardner Read, provided me with sufficient insight regarding instrumental combinations. Having observed many of the particular types of instrumental combinations as referenced from within different works by Read, decisions were well informed as timbral outcomes through instrumentation were effectively conducive to the overall sound-world profile. Therein, multiple examples of various instrumental combinations, registers and techniques observed within a vast selection of repertoire proved hugely stimulating as I went about the process of re-composition. And it was on this basis, indeed, that I began to envisage the soundscape for the pieces' variety of instrumental combinations.

CHAPTER 1

1. Alone

Inspired by the eerie connotation of the text, the sound-world depicts the character and mood of the music while emulating the cryptic poetic journey illustrated in Poe's *Alone*. The acoustic landscape transpires through the application of orchestration concerning techniques applied to the cello for colour variation, such as scordatura, pizzicato, muting, harmonics and sul ponticello. Wide use of register applies to both instruments as a crucial factor for diversifying sonorities conducive to the realisation of contrasting features within the soundscape. These techniques are the elemental components that establish, unify and characterise the acoustic landscape that is fundamental to the nature of the piece and the evolution of the musical material.

The transparent, atmospheric sonority of the artificial harmonics sound at the high end of the cello's register complementing the contrasting, solid vocal line. The artificial harmonics resonating two octaves above the fundamental, combined with muting, distinguish this particular sonority as a theme in itself; while it also functions as a unifying element, characteristic of much of the musical material. Similarly, the use of sul ponticello applied to the low register cello lines for example, as demonstrated between bars 43 and 45 and even in the final bar of the piece, disguises the nature of the fundamental; as high frequencies dominate the resonance over that of the fundamental tone.

Scordatura disrupts the natural tuning system, exaggerating the deep, unfocused resonance of its bass tone. The pizzicato motif functions as a pedal tone, underlying the softer, high-resonating material; while the pitch sustain is effectively prolonged with the minor third detuning.

Example 1 illustrates the above mentioned applied techniques occurring within the first four bars of the opening of the piece.

Ex. 1: (bars 1 – 4)

The musical score for Example 1 (bars 1-4) consists of two staves: Baritone and Violoncello. The Baritone staff is in 2/4 time, starting with a tempo marking of ♩ = 63 and a dynamic of *p*. It features a vocal line with lyrics: "From child-hood's hour I have not been as o-thers were;". The Violoncello staff is also in 2/4 time, starting with a dynamic of *p*. It includes various performance instructions: "sustain ties = let vibrate con sord. pizz." for the first two bars, "arco" for the third bar, and "legato" for the fourth bar. The score uses various musical notations including slurs, ties, and dynamic markings (*p*, *mp*, *p*) to illustrate the techniques discussed in the text.

Scordatura not only inevitably alters the timbre of the string's resonance, but its deep, earthy character in addition to the solid tones produced in the vocal line clearly contrast and underline the thin, transparency of the pitches at the high end of the register. These two very different

sonorities starkly contrast, and are arranged not only to diversify the sonic field, but, by opposition, to be especially distinguished within a context sounding against one another. Positioning them against each other (melodically and harmonically) pronounces the characteristic traits that define the overall sound-world. This expressive narrative device is fundamental to the colour contouring that shapes the body of the acoustic soundscape.

Example 2 illustrates a combination of distinctly soft, less abrasive, ethereal harmonic tones set at the higher extreme of the cello register, coupled with aggressive, thick, low-range tones in the baritone line. These colour-contrasted lines isolate each other, while simultaneously exaggerating their sonorous natures as they accompany one another, extending down to the lowest end of both the baritone and cello registers.

Ex. 2: baritone and cello (bars 9-12)

The musical score for Example 2 shows two staves: Baritone (top) and Cello (bottom). The Baritone staff begins at bar 9 with a *mf* dynamic, followed by a *p sub* dynamic, and then a *mf* dynamic. The Cello staff begins at bar 9 with a *mf* dynamic, followed by a *p* dynamic, and then a *pp* dynamic. The lyrics are: "From the same source I have not ta - ken my sor - row;". The Cello staff includes markings for *pizz.* (pizzicato) and *arco* (arco). The Baritone staff includes markings for *mf*, *p sub*, *mf*, and *pp*. The Cello staff includes markings for *mf*, *p*, and *pp*. The Baritone staff includes markings for *mf*, *p sub*, *mf*, and *pp*. The Cello staff includes markings for *pizz.*, *arco*, and *pizz.*. The Baritone staff includes markings for *mf*, *p sub*, *mf*, and *pp*. The Cello staff includes markings for *mf*, *p*, and *pp*. The Baritone staff includes markings for *mf*, *p sub*, *mf*, and *pp*. The Cello staff includes markings for *pizz.*, *arco*, and *pizz.*.

Example 3 demonstrates a melodic line spanning nearly four octaves, and, by its registral expanse, shapes the phrase; drawing out the dynamic musical expressivity. Unifying high and low end pitches in a short phrase, within the space of only three bars, define the sound colours in a linear relationship, illuminating timbres contrasted by their positioning at opposite ends of the register.

Ex. 3: cello (bars 23-25)

The musical score for Example 3 shows a single staff for Cello (Vc). The staff begins at bar 23 with a *pizz.* (pizzicato) marking, followed by an *arco* (arco) marking. The dynamics are *f*, *p*, *mp*, and *mf*. The Cello staff includes markings for *pizz.*, *arco*, and *pizz.*. The Baritone staff includes markings for *mf*, *p sub*, *mf*, and *pp*. The Cello staff includes markings for *mf*, *p*, and *pp*. The Baritone staff includes markings for *mf*, *p sub*, *mf*, and *pp*. The Cello staff includes markings for *pizz.*, *arco*, and *pizz.*.

Placement in the register, the addition of these techniques, and the context within which both of the latter are placed, drastically affect the nature of pitch resonances which ultimately determine the nature of timbres. The baritone and cello lines consist of carefully arranged resonating timbres that function as expressive and narrative. This method of orchestration contrasts instrumental colour, aligning muted artificial harmonics against the solid vocal line at baritone range, and varies lines, accommodating a wide range of pitches, phrasing them together at opposite extremes of the register. These processes effectively enhance the ultimate realisation of a timbre's resonant identity as a defining feature of the sound-world, and, by opposition, a timbre's individual function is clarified. The wide range use of register is a significant means for exhibiting sonorities that dominate this material, such as: the harmonics and fundamental pitches and the vocal pitches. The location in the register effects how a given pitch or timbre

will resonate, and therefore this mode of orchestration becomes a way of controlling the resonant features of timbres. These methods of orchestration distinguish, shape, and determine the sonorities that depict the character of the piece and of the sound-world.

2. *Light Upon Darkness*

The level of the interactivity I engaged with when undertaking this project was on the basis of hearing the work in progress rehearsed daily. I am acknowledging the process undertaken, as it significantly influenced and informed my decisions when writing the music. The context of the work is structurally based on sustaining material through which timbres and distinct colours are arranged, combined and made explicit. Sustaining an ambient-type sound-world, the material consists of organisations of timbres that combine with applications of techniques, modifying and diversifying instrumental sonorities. The music features fundamental instrumental timbres and unifications of the ensemble through instrumental blending. Various alterations of sonorities within the piece create distinct individual timbral devices, the functional elements by which this diverse soundscape is formed. The following examples feature the fundamental elements of the piece.

Ex. 4: (bars 1 – 5)

The musical score for Ex. 4 (bars 1–5) is written for five instruments: Flute, Bass Clarinet in Bb, Bass Drum, Violin I, and Violoncello. The score is in 2/4 time and consists of five measures. The Flute part begins with a tempo marking of ♩ = 63 and a character description of 'dark, eerie'. It features a series of chords and melodic lines with dynamic markings of *fp*, *f*, *mp*, *mf*, *mp*, and *fp*. A note in the fourth measure is marked with a dashed line and the text '*h.t. = hollow tone' and 'flz.'. The Bass Clarinet in Bb part has a dynamic marking of *p* in the fourth measure and *mp* in the fifth. The Bass Drum part has dynamic markings of *mf*, *ppp*, *mf*, *mp*, *mf*, and *mp*. The Violin I part has dynamic markings of *fp*, *mp*, and *fp*, with performance instructions 'con sord.', 'sul pont.', and 'ord.'. The Violoncello part has dynamic markings of *f*, *mf*, *mf*, *mp*, *mf*, and *fp*, with performance instructions 'pizz.', 'arco', 'pizz.', and 'con sord.'. A note in the first measure of the Violoncello part is marked with a dashed line and the text '*sustain ties = let vibrate'.

Once again, as in the opening of *Alone* and in *Glaciers*, the attack and resonance motif introduces the piece with a sharp entrance triggering the sustaining events. As this motivic device was applied as a structural element in *Glaciers*, and as a pedal tone ambient in *Alone*, this is a case where the attack feature is regarded as an initiation of the following events. The material gradually increases dynamically as a reactive event. This material illustrated above exhibits features that characterise the sustaining atmospheric ambience of the overall

soundscape. Blending within the ensemble, dynamics, register, and techniques modify the sounds and timbral combinations.

Individual instruments are modified, producing sonorities to which I am particularly drawn, for example in bar 2 of the above illustration, the flute combining hollow tone with fluttertongue at the lowest end of its register. Of these timbral interests, bar 3 exhibits a version of a reoccurring blend to which I am also particularly partial; the combination of artificial cello harmonics and sul ponticello on the violin (also shown below in ex. 5). The deep ambient surroundings supported by the bass drum roll stabilize and unite the otherwise disjoint constituents; timbres and hybrid timbres that collectively reflect the overall nature of this ethereal, transparent sonic plane. Example 5 and 6 are examples of modified fundamental sonorities which blend between two instruments and effectively create a new hybrid-sonority. Exhibited in example 5 from bars 13 – 16 is a melodic line coloured by a hybrid-sonority that is unique within the context of this portfolio, as the violin and cello are not blended in the same way in any other piece. The result reaches the higher extent of the register while the unfocused, whistle-like tones are one of the primary components of the nature of the sound-world.

Ex. 5: (bars 13 – 16)

Example 5 shows a musical score for bars 13–16, featuring Violin (Vln.) and Cello (Vc.) staves. The Violin staff has a melodic line with dynamics *mp*, *f*, *mf*, and *fp*, and techniques *sul pont.* and *arco*. The Cello staff has a supporting line with dynamics *mf*, *mp*, *f*, *mf*, and *fp*, and techniques *pizz.* and *arco*. Both staves have a 3-measure rest in the final measure.

In example 6 below, two instruments resonate in unison with each other through flutter-tonguing. The additional hollow tone technique in the flute line distinguishes the resulting sonority of this unity. This combination tremolando effect occurs one other time between the flute and vibraphone in bars 63 – 65 which creates a similar fluttering resonance with the addition of percussive articulations. Timbres frequently merge assuming a new identity and then disconnect to reassume that of the original as seen in the example below. The sequence sustains through the clarinet, separate from the flute. Dynamic colour shifts occur throughout this piece in a variety of ways as a result of different instrumental blends, as shown here and in examples 7, 8, 9, and 10.

Ex. 6: (bar 14)

Example 6 shows a musical score for bar 14, featuring Flute (Fl.) and Clarinet (Cl.) staves. The Flute staff has a melodic line with dynamics *mp* and *p*, and techniques *h.t.* and *flz.*. The Clarinet staff has a supporting line with dynamics *mp* and *p*, and technique *flz.*.

Ex. 7: (bars 26 – 30)

Ex. 7: (bars 26 – 30) is a musical score for four staves: Flute (Fl.), Clarinet (Cl.), Violin (Vln.), and Violoncello (Vc.). The time signature is 3/4. The Flute part starts at bar 26 with a *p* dynamic, followed by a crescendo to *mf*. The Clarinet part starts at bar 26 with a *pp sub* dynamic, followed by a crescendo to *mf*, then a *pp sub* dynamic, and finally a crescendo to *mf*. The Violin part starts at bar 26 with a *mp dolce* dynamic, followed by a crescendo to *mf*, then a *p* dynamic. The Violoncello part starts at bar 26 with a *mp dolce* dynamic, followed by a crescendo to *mf*, then a *p* dynamic. The score includes various musical notations such as slurs, ties, and dynamic markings.

Ex. 8: (bars 36 – 38)

Ex. 8: (bars 36 – 38) is a musical score for four staves: Flute (Fl.), Vibraphone (Vib.), Violin (Vln.), and Violoncello (Vc.). The time signature is 3/4. The Flute part starts at bar 36 with a *p* dynamic, followed by a crescendo to *mf*, then a *p sub* dynamic, and finally a crescendo to *mf*. The Vibraphone part starts at bar 36 with a *mf* dynamic, followed by a *p* dynamic, then a *mp* dynamic, and finally a *mf* dynamic. The Violin part starts at bar 36 with a *p* dynamic, followed by a crescendo to *mf*, then a *p sub* dynamic, and finally a crescendo to *mf*. The Violoncello part starts at bar 36 with a *p* dynamic, followed by a crescendo to *mf*, then a *mp* dynamic, and finally a *pp* dynamic. The score includes various musical notations such as slurs, ties, and dynamic markings.

Example 9 below varies the unison blend in that the melody carried out by the violin frequently incorporates the pitches that blend in unison with the surrounding ambient pitches in the cello and vibraphone parts. Where the melody briefly unites with the sustaining pitches it draws attention to itself, as if it had triggered the onset of sustains emulating echoes. This type of interaction between the instruments, although it does not occur often, is a technique which incidentally emphasises a pitch without using articulations. The blending of the instruments unites this ensemble where sections are joined to recreate new yet non-existent instruments.

Ex. 9: (bars 44 – 47)

Ex. 9: (bars 44 – 47) is a musical score for three staves: Vibraphone (Vib.), Violin (Vln.), and Violoncello (Vc.). The time signature is 3/4. The Vibraphone part starts at bar 44 with a *p* dynamic, followed by a crescendo to *mp*. The Violin part starts at bar 44 with a *f* dynamic, followed by a *p sub* dynamic, then a *mp* dynamic, and finally a *mp* dynamic. The Violoncello part starts at bar 44 with a *f* dynamic, followed by a *p sub* dynamic, then a *mp* dynamic, and finally a *mp* dynamic. The score includes various musical notations such as slurs, ties, and dynamic markings.

The instruments completely unite in this section through contrapuntal relationships of unisons, a 2nd, a 7th and a tritone. The tensions created here are unique within the harmonic context of the piece, as this is the only section that includes a tritone and therefore resonates with this magnitude of dissonance. The ensemble almost completely behaves as a new instrument in itself. The resulting sonority is a hybrid-sonority featuring tense resonances with which the nature of this combination identifies. The high register dissonances draw attention to the section, illuminating it as a focal point within the context of this music.

Ex. 10: (bars 91 – 93)

The musical score for bars 91-93 of Ex. 10 is presented for five instruments: Piccolo (Picc.), Clarinet in Bb (Cl.), Crotales (Crot.), Violin (Vln.), and Viola (Vc.). The score is written in 4/4 time and features a key signature of one flat (Bb). The Piccolo part begins in bar 91 with a half note G4, followed by a half note A4 in bar 92, and a half note Bb4 in bar 93. The Clarinet in Bb part begins in bar 91 with a half note G3, followed by a half note A3 in bar 92, and a half note Bb3 in bar 93. The Crotales part begins in bar 91 with a half note G3, followed by a half note A3 in bar 92, and a half note Bb3 in bar 93. The Violin part begins in bar 91 with a half note G4, followed by a half note A4 in bar 92, and a half note Bb4 in bar 93. The Viola part begins in bar 91 with a half note G3, followed by a half note A3 in bar 92, and a half note Bb3 in bar 93. The score includes dynamic markings: *pp* for the Clarinet in Bb, *mp* for the Crotales, and *mf* for the Viola. The Piccolo and Violin parts end with a *ff* marking in bar 93. The score is written in a single system with five staves.

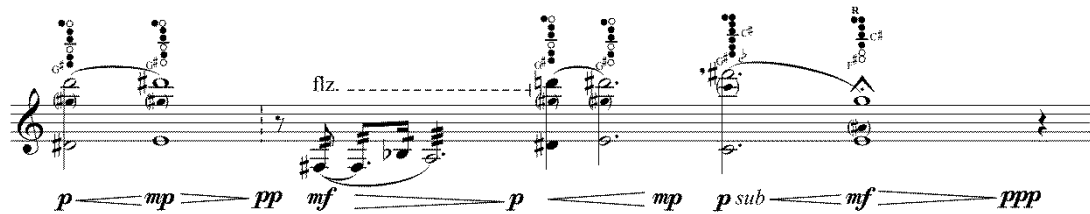
The compositional profile of *Light Upon Darkness* harbours expressive narrative structures within it; featuring a coexistence of timbres, hybrid-timbres, and blending within the ensemble. This piece is a composition embodying features of timbre drawn together through uniformly horizontal relationships of smooth transitions throughout the music. Evading a general sense of rhythm and time, this is a work that concentrates on timbral elements that were organised as subjects, features that combine and characterise the nature of this soundscape; in this way sound-world was the ultimate outcome.

3. *Sonorization for Solo Clarinet*

This work is centralised on the exploration of extended techniques as a means of encompassing the broader range of timbres exclusive to the characteristics and technical capabilities of this instrument. My decisions regarding the material content and its developments during the processes of writing this piece were significantly influenced by the performer. As we proceeded with regular sessions, where I sought to further understand the techniques available for the project, I modified and customised the material around the performer's strengths and technical capabilities, which was what partially influenced the ways in which I modified phrase sequences

within the work. For example, the selection of multiphonics and the order in which they are arranged was not only a result of creative planning and for the purpose of achieving a distinct musical phrase, but that they were selected was due to the quality of their production. Additionally I had to consider how the performer progressed through the multiphonics sequentially within the phrase. My aim was to create specific timbres that are clearly distinguishable from one another in order to diversify sonorities of every component. The example below demonstrates a sequence of multiphonics interrupted by a motif requiring a different set of technical demands unrelated to that required to produce the multiphonics.

Ex. 11: (line 3)



All decisions regarding the incorporation of multiphonics had to be carefully considered.¹⁴ Another feature of the content that was influenced by the performer was the context within which multiphonics were arranged. For instance, phrases were constructed by tailoring the approach into the multiphonic gesture, and equally its execution and the departure from it. It is not the case that this particular sonority is of greater importance than others within the piece; it is simply treated as such, due to the technical demands required for achieving the clearest and most accurate sound. Simultaneously though, gestures around it were structured as expressive narrative devices employing dynamics and a broad use of the registral spectrum which are conducive to timbral shaping and diversity. Even the juxtaposition of multiphonics, illustrated in the example below in line 2, was arranged based on performability. That this trilled sequence between two different multiphonic sonorities was effective and clear contributed significantly to my timbral shaping scheme.¹⁵ Each multiphonic and sequence of multiphonics is in itself an expressive narrative device through which diverse timbres are realised as part of the overall sonorous profile of the work. The example below illustrates a sequence tailored to the approach, execution, and departure of the multiphonic and the surrounding content, all of which were successfully performed as complete phrases.

¹⁴ Refeldt, Philip, 2003 - This source provided a multitude of possible multiphonics and multiphonic fingerings which clarified my understanding of multiphonics.

¹⁵ Sciarrino, Salvatore, *Let Me Die Before I Wake* informed my decisions for applying multiphonics within the context of this work. The versatility and expressivity of the multiphonics within a complete compositional context inspired my own creative applications of these particular sonorities.

Ex. 12: (line 1 and 2, page 2)

The structures of gestures are conducive to the facilitation of timbral realisations and colour shaping and expression. The diversity and variations of rhythms of this improvisatory compositional profile create the forward moving momentum. The slower segments within the construct allow for the optimal sound production of timbral devices. The segments directly surrounding the multiphonics are an example of this (Ex. 12 and 13).

Ex. 13: (page 3, lines 2 – 5)

Another particular feature of the techniques to which I am drawn in the sense of expressive potential is the dynamic versatility. With great ease the clarinet can reproduce a sound at an extremely quiet dynamic level, and appear to crescendo out of nothing. The effect is featured throughout this composition as an orchestration application of dynamics and is essentially a device by which the timbres are realised, functioning in a similar way to that within the other pieces. However, it is rather unique in this context as the clarinet's response to sudden drastic changes in dynamic levels is unlike that of other instruments as they are represented in the compositional contexts within this portfolio. The sound can reduce to nearly nothing very abruptly, and likewise can reproduce loud, abrasive sounds. These applications contribute to effective dynamic and colour contouring of phrases and individual timbres. Examples below illustrate the phrases where this is applied.

Ex. 14: (page 1, lines 5, 6, 7)

The musical score for Example 14 consists of three staves of music. The first staff begins with a treble clef and a key signature of one sharp (F#). It features a series of eighth and sixteenth notes, with dynamic markings *pp*, *mf*, *f*, *ppp sub*, *mf*, and *p sub*. There are also triplets and a *flz.* (flageolet) marking. The second staff continues the melodic line, marked with *< pp*, *mp*, *ppp*, *p*, *ppp mp*, *mf*, *f*, and *p*. It includes trills (*T.tr.*) and triplets. The third staff shows further melodic development with dynamics *f*, *p sub*, *ppp*, *mf*, *mp*, and *p*, along with triplets and a *flz.* marking.

The overall sound-world profile consists of timbral devices controlled by applications of dynamics and ascending and descending melodic gestures that extend to the farthest reaches of the instrument's register and even through the applications of various techniques. In addition to the work by Salvatore Sciarrino, Helmut Lachenmann's *Dal Niente* and William O. Smith's *Variations for solo clarinet* were equally inspirational, specifically regarding their implementations of the techniques I chose to adopt within my own work. The performer's demonstrations of these techniques were ultimately what influenced my decisions to use them within the context of this piece. Although listening to the recordings of these particular works was exceptionally informative, more crucial to the creative process was listening to the live playback of my compositional drafts to which I adapted these techniques and timbral devices. This process was equally as beneficial and informative as the process undertaken while composing *Light Upon Darkness*. Regular feedback (playback demonstrations), in both this instance and in the previous, from the performer facilitated a clear perspective of the music and more accurate decisions regarding applications of multiphonics and the other techniques applied to this music.

A common timbral shaping device employed throughout the compositions within this portfolio is contrast, in this case, referring to the use of the clarinet's range and the use of dynamics. Example 14 illustrates the dynamic contrasts between and within phrases. The abrupt and stark contrasts (juxtapositions of opposite dynamic extremes) accentuate the effects of the harsh abrasive tones as against the equally quiet, singing lines in the upper register. This is an applied compositional mode by which I feature the realisation of the character extremes (Ex. 14 and 15).

Ex. 15: (page 1, line 7 leading into page 2, line 1)

My decisions regarding the selection of techniques were based on the material content and a preconceived timbral construct. It is conducive to a sound-world that ultimately manifests the diversity of clarinet sonorities that distinguish the nature of the instrument.

The sound-world is characterised and realised through the arrangements and production of a variety of timbres that represent different features of the clarinet's expressive character. These significantly diversify the overarching soundscape profile of this piece. It was through the collaboration process that I was able to gain a deeper understanding of the instrument. In turn, I came to realise the variety of techniques available and to more fully understand them as they are produced physically by the performer. The performer influenced decisions in my implementations of extended techniques. The working partnership enabled me to craft difficult passages and to employ idiomatic techniques for the instrument without inhibiting the performer's sound production and potential expressivity of the music. I was therefore able to apply these techniques effectively to represent precise illustrations of timbral combinations and to more accurately shape and control the overall sound-world. Given the nature and the context of the musical material, its interpretation cannot be reproduced as intended by any instrument other than the clarinet.

4. (...through the clouds towards the rising sun)

The overall form of this piece and the harmonic language was strongly influenced by the works of Debussy, in particular, his Piano Prelude no.3 *Le Vent dans la Plaine*¹⁶ and no. 10 *La cathédrale engloutie*¹⁷ (both book 1). Of the inspiring features from within *La cathédrale engloutie*, this composition incorporates pedal tone effects, parallel harmonies and chordal resonances spanning across the extreme range of the keyboard. The persistent sextuplet figures and occasional interruptions of rhythmic shifts and the formal structure from within *Le Vent dans la Plaine* are also reflected in this work.

¹⁶ Claude Debussy's *Le vent dans la plaine* was used as a formal guide for the development of the second section in this work.

¹⁷ Claude Debussy's *La cathédrale engloutie* inspired the idea behind the rising quartal and quasi-quartal harmonies.

Timbre is made explicit and varied through the different registers of the piano and through applications of counterpoint. Expressive narrative timbral designs are distinguished by their intervallic relationships, and as interval combinations vary from chord to chord, the resonant effects change. Meanwhile, the timbre of the blend becomes a resulting hybrid-sonority that is the sum of the innate resonances of individual intervals. By combining these intervals of contrasting sonorities, for instance perfect and dissonant intervals, their resonances are accentuated, complementing one another in a way that distinguishes the timbre of a chord within a harmonic sequence.

The structural envelope of the overarching sonic field is the interconnection between timbre and form. This work is organised in two parts where intervallic effects are explored in different ways; for example, the first section features vertical harmonic relationships between intervallic sonorities and the second explores these relationships within horizontal, melodic progressions.

Timbres resonate through the effects of functional and non-functional quartal and variations of quasi-quartal harmonies. The quasi-tonality of this music is a resultant feature of the integration of functional and non-functional harmonies lending to the shape of the sound-world. The strength of the perfect intervals within chords and in parallel motion, which further illuminates intervallic resonances within a given context, is present throughout the harmonic journey of the piece. Applications of such sonorities within Debussy's *La cathédrale engloutie* were particularly attractive and inspired ideas for incorporating them into this composition. Having appropriated them into the context of my own work they serve as dominant colour features for expressive timbral devices within sequences and ultimately towards the realisation of predetermined sonic conceptions.

Debussy's use of parallel harmony extends from pure triads with doubled root to a large variety of chordal types with dissonant intervals, which are almost always best understood less in terms of root function in one or more keys, and more in terms of specific sonorities deployed as a colouristic expansion of a single melodic line. Debussy's parallel harmony employed in this way is usually the principal textural element...¹⁸

The intervals stand out from within sequences by the nature of their more relaxed, stable sound in comparison to other consonant and dissonant intervals. The surrounding harmonic content positions these as distinguishable within their surroundings or harmonic sequences and are overall especially conducive to the shaping within and formation of the body of the sound-world.

The effects of these expressive timbral devices having been explored through a series of arrangements and textures are also influenced significantly by their locations within the extreme range of the register. Both chords and melody lines extend from the piano's lowest B flat

¹⁸ DeVoto, Mark, 'The Debussy Sound: Colour, Texture, Gesture', in: Simon Trezise (ed.), *The Cambridge Companion to Debussy*, Cambridge, 2003, 179-196 at 186 and 187.

through to its highest B flat. Contrary to that in *Alone*, phrases generally ascend rather than descend as the harmonic and melodic material rises upward finishing the piece with a chord at the highest extreme of the register.

The opening as illustrated in example 16 below introduces a low sonority that is later applied as a recurring motif, a textural underlining for its pedal tone effects. It is treated as an all-encompassing timbre in its entirety, a sum of its articulation and resonant envelope. This application is resembled in the cello line in *Alone* and it diversifies timbre in a similar way, underlining the thematic material contrasting the sonorities of the content in the upper register. The opening bar also introduces a perfect 5th above alluding to its dominating role in shaping the timbral journey within the harmonic field.

The sonority of the pedal tone is altered in the third bar introducing the dissonant resonance of the 2nd. Contrary to the harmony above, these tense undertones, positioned at the lower end of the register, generate a weighted, unfocused and tense resonance that surrounds the more stable sonority above. Their contrasting sonorous natures illuminate them within their harmonic surroundings. The fourth bar continues with a quasi-quartal harmony combining intervals of an 8^{ve}, 7th, 5th, 4th and a major 3rd. The blend of stable intervals and the consonant accentuate the 7th within the chord combination as the resonance from the 7th is distinguishable.

Ex. 16: (bars 1 – 4)

♩ = 52 dark, melancholy

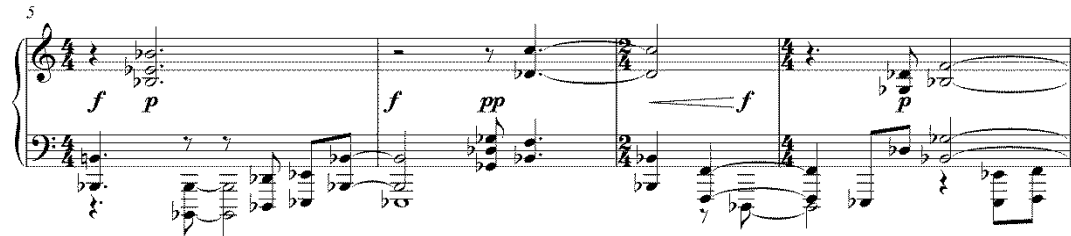
The musical notation for Example 16 shows four bars of music. The piano part (left) has chords in the right hand and single notes in the left hand. The cello part (right) has single notes. The dynamics are ff, mf, f, mf, f, mf, f, mf. The tempo is 52 dark, melancholy.

The opening components continue to evolve into bar 5 of example 17 below where the first chord (bar 5) arranges an augmented 8^{ve}, a major 7th, a 4th, a 5th and a minor 3rd decorated by the resonances of ascending parallel octaves as their sonorities are so different they never tend to overshadow one another. Rather, their combined qualities produce a non-identical chordal sonority within harmonic sequences due to their dominant individual strengths. I find tense interval resonances particularly striking combined with quartal harmonies. The nature of the relationship between the intervals brings out colours fundamental to the overall timbral character of the chord.

In bar six the 7th pronounces a greater clarity of sound within the chord as it is placed higher in the register. How I have arranged harmonic sequences within the register affects timbral resonances within the context. Particularly conducive to the diversity within the overall sound-

world are the changing natures of intervallic timbres, depending on where in the register they are placed. The location of material is a determinant of acoustic expression in addition to contrapuntal variation within narrative timbral devices fundamental to the overall sonic form.

Ex. 17: (bars 5 – 8)

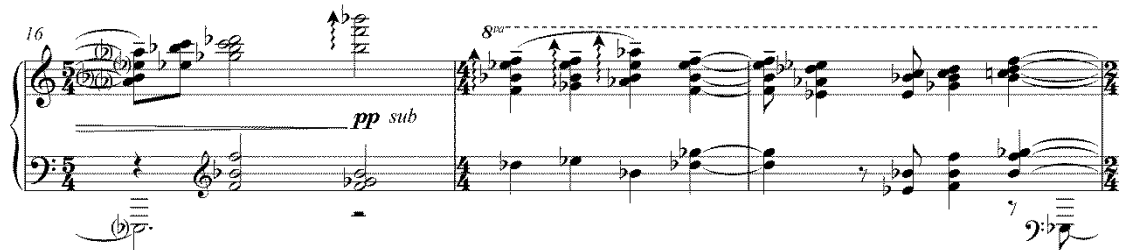


Contrapuntal and registral variation within the harmonic context are a means of diversifying timbres and fostering the development within the acoustic timbral soundscape. Examples 18, 19 and 20 below from within the music exhibit the evolutionary processes of the previously mentioned timbral developments from within section one (bars 1 – 19). From the opening through to bar 19, interval combinations include more octave doublings and thicker harmonic textures spanning across a greater portion of the register increasing timbral density. These developments can be observed in the examples extracted from section 1 below.

Ex. 18: (bars 9 – 12)



Ex. 19: (bars 16 and 18)



Between bars 16 and 18 (Ex. 19) the bass tones are removed from the context placing the interval relationships and the combined chordal effects entirely within the upper register which distinguishes the nature of this progression from that of the rest of the section. Congruently with the structural development of the material, this timbral shift marks the beginning of the transition into the bridge before section 2. The new section at bar 21 explores chordal

arrangements, related to that of the first section, in a linear horizontal context as illustrated in example 20 below.

Ex. 20: (bars 21 and 22)

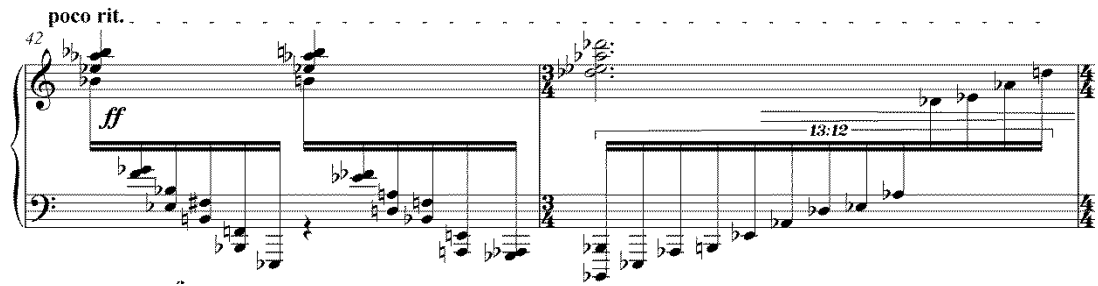
Each sextuplet grouping consists of similar quartal harmonic relationships. Timbral dimension is enhanced at bar 22 (Ex. 20) with a line of perfect intervals that ascend from the lower half of the register. The structural differences within this section and the previous provide alternative formats through which timbre evolves as part of a continuous developmental process; however, form is not here a determinant of timbre.

In section two variations of harmonic density and the expansion and contraction of pitches across the register are additional properties of timbral shaping. Harmonic density refers to the number of intervals compiled and is a substantial means by which timbre is varied and controlled contrapuntally. Bar 21 (Ex. 20) consists of a thin texture as opposed to example 21 below where the texture is thicker but with a similar harmonic language. In each bar the sustain pedal facilitates the blending of pitches. In some cases pitches blend to the extent of forming thicker harmonic densities and enhancing through sustain effects as in bar 31 at the final beat just before the pedal dampens the sound on entering into the next bar.

Ex. 21: (bars 29 – 31)

The climax of the piece happens in bars forty-two and forty-three illustrated in example 22 below. Given the consistency of fluctuations in harmonic density and register, arrangements of greater concentrations of intervals form clusters of combined diverse sonorities spanning the register; a summation of the primary (previous) influential elements of the sound-world.

Ex. 22: (bars 42 and 43)



The two fundamental parts of this composition are loosely based on the harmonic language of Debussy's *La cathédrale engloutie* (section 1) and the formal structure of his *Le vent dans la plaine* (section 2). Although chords are designed without the obligations of harmonic functions the music is still harmonically quasi-tonal. Harmony is the result of contrapuntal applications or chordal designs; a means through which timbre is realised. The quartal and quasi-quartal harmonies within it are a facet to which I am drawn as distinct colour features are used frequently in my works as expressive devices that shape the complete sonic envelope of this work. The character and nature of the sound-world is manifested through the contrapuntal designs within the entire harmonic context while the registral diversity of this content is equally as essential to the design of the sonic envelope.

5. *Glaciers*

Percussive by nature, the entire work draws from the very powerful, low-resonating sound that can be drawn from the two bass drums and timpani. I chose to employ the large bass drum and timpani for the interactive dialogue based on their equally powerful resonant capacities. I intended for the slight differences in their resonant qualities to facilitate the spatialisation of the opening dialogue. The small bass drum contributes a different timbre than that of the other drums so as to designate the responsive resonant sustains. The timbral variances between the three drums are particular to their sizes and this feature positions their timbral differences within the attack and sustain elements of the work's structure.

Inspired by a solid sonority that can penetrate the full forces of an orchestra this theme is developed through the other instruments of the ensemble as a way of exploring timbral variety. Adjoined with the overarching sound-world envelope, formal structure of material provides the platform on which the organisation of content exists, and thus material evolves in tandem with timbre. As this is also the case within the other works of this portfolio, here, expressive narrative timbral devices develop and function in alignment with the outlining formal structure and its sub-contents.

The piece opens with a dialogue between timpani and bass drum from behind the orchestra at opposite ends of the stage while both instruments strike at *ff* in rhythmic unison introducing the work with the single, fundamental motif from which the entire work is constructed. The material in the opening bars is broadly spaced allowing time to accommodate the duration of natural decays from the point of its articulation and the silences between each occurrence. The motif sounds five times at *ff* with relentless attacks producing long resonances reinforcing its dominant role within the music while the pace of the attacks increases until bar twelve where the colour and dynamic change as the drums are quietly struck at the rim and damped on the rests.

Both the articulation feature and resonant envelope constitute the entire sonority of the opening motif¹⁹ which is expanded further through variations of these two components. For instance, the percussionists are instructed to exchange between hard and soft mallets and sides of the mallets in order to control the resonances of sonorities and equally the timbre of the attack in addition to striking on particular locations of the drums. Timbral variation is featured through the developments of the two motivic strands as demonstrated in the musical extracts below.

Ex. 23: (bars 12 and 13)

(*always damp on rest except where there is a tie)
 *rim = always play on outer edge of skin

Timp.

B. D. 1

Ex. 24: (bars 64 and 67)

E

(rim) gradually move to center → $\frac{3}{4}$ → $\frac{2}{4}$ → $\frac{2+2+3}{8}$ center

(rim) gradually move to center → center

multi-timbral mallets [H.S.]

Timp.

B. D. 1

B. D. 2

¹⁹ Jean-Charles François acknowledges within the context of Varèse's *Ionization* that the sonority of the instrument is inseparable from the ways in which articulations are inscribed in time. Timbre's substance is derived from being inscribed and it must be articulated in time in order to be realised.

Examples 23 and 24 drawn from the dialogue demonstrate the change in rhythmic textures. This is where the attack features develop and timbre is emphasised by the articulations and is thus varied through different techniques of attack as illustrated in the above examples.

Example 25 below demonstrates exchanging of deadstroke and resonance between the two drums while attacking together in rhythmic unison. As this sequence continues, the two drums alternate, damping the pitches and allowing the sustain of the other to be heard individually, while shifting around the skin of the drumhead. This effective exchange of articulations allows some fluctuation in the sound colour.

Ex. 25: (bars 20 and 21)

A similar process of facilitating rhythmic alternation of sonorities between drums is illustrated in example 26 below between the attack and sustain features. Timbral control relies on the nature of articulations through this section, as the particular side of the mallets used to articulate sound is equally as crucial as the location in which to attack.

Ex. 26: (bars 35 – 39)

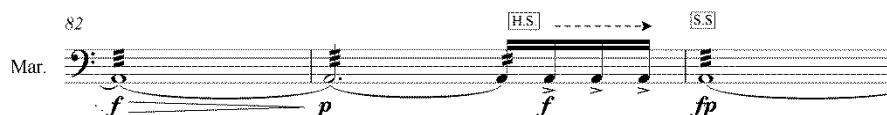
Sounding from the middle of the orchestra, a second, smaller bass drum is introduced at letter D complementing the rhythmic density and resonant capacity while adding texture to the material. Bringing the dialogue section to a close, the trio releases the final attack together allowing the resonances to vibrate and melt away into the increasing sound of the marimba roll introduced at bar 75 just before letter G.

The first section of the piece, from the dialogue through to letter G, primarily features rhythmic diversity through which timbre is varied. The resonances are secondary, less dominant features of the attack and sustain motif, and are realised only very briefly between fleeting rhythmic

articulations. Following the climax at the end of section 1, the marimba tremolo leads the transition into the second section. Letter G introduces new material featuring the sustain component as a primary theme providing a different means through which timbres are explored. As the music proceeds through to letter H, other instruments of the ensemble are introduced, contributing their own timbres to the acoustic soundscape as they sustain and gradually blend into the sound of the marimba. Collectively they evolve the timbral plane that is initiated by the sustaining resonance of the marimba. Techniques employed for sustaining sonorities also create textures contributing to the distinction of sonorities, while the material embraces the wider range of the ensemble's registral spectrum. The applications of techniques and components of orchestration control timbres of sustaining sonorities.

As part of the timbral material, each instrument is treated as an individual sonority, contributing its own unparalleled timbres. Examples below illustrate how each one sustains sound and the means by which they contribute to the sonic plane of section two. For instance, tremolando is applied to maintain a consistent sound. Dynamics are applied to influence the expressive nature of the marimba. Shaping the sonority by increasing the volume, the technique is adjusted and the articulations of the sustaining resonance are accentuated (Ex. 27).

Ex. 27: (bars 82 – 84)



Example 28 below demonstrates how the piano emulates the attack and resonance motif. The technique applied to the sonority creates a distinct timbre as a result of this manipulation of the sonority.

Ex. 28: (bar 80 and bars 108-110)

Fig 1: (bar 80)

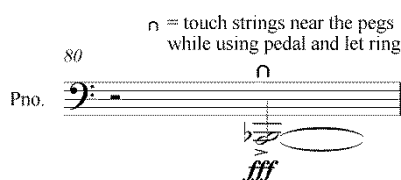
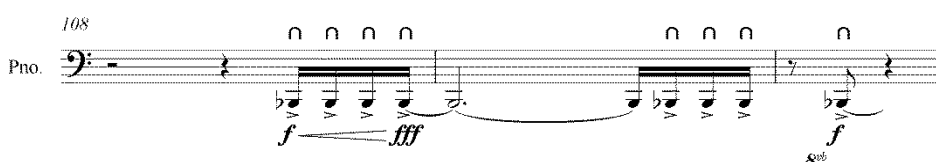
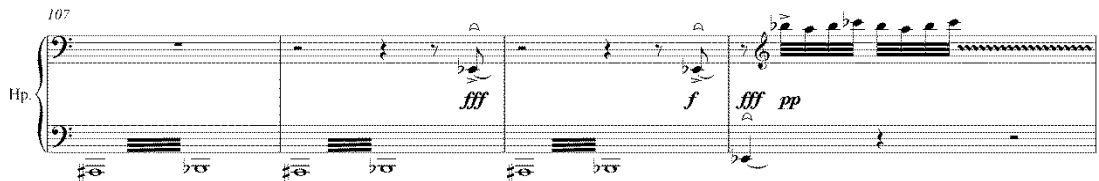


Fig 2: (bars 108 – 110)



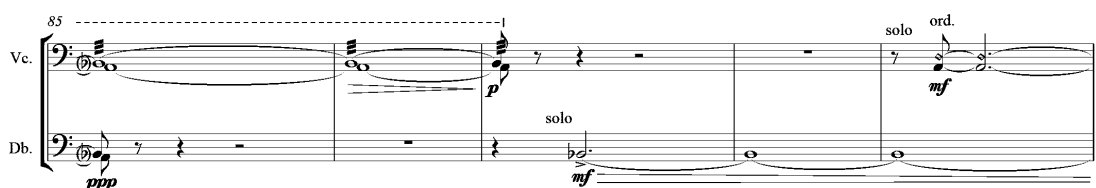
Similar to the marimba, dynamics are applied to the harp material to shape timbre by accentuating articulations of the rapid reiteration of a single pitch or oscillation between three pitches and resonances are sustained using the bisbigliando technique (Ex. 29). The timbral nature of the attack and sustain reproductions through the applied techniques of the harp distinguishes these timbral devices within the acoustic landscape. As applied in other contexts, lower register material positioned against upper register material by contrast accentuates particular timbres that identify with the sonorities in their given registral locations.

Ex. 29: (bars 107 – 110)



Applied idiomatic techniques shaping timbres and sustaining sound form equally unique sonorities and textures in the cello and double bass material, and those that significantly diversify timbres include muting, pizzicato, sul ponticello and harmonics. Modes of sustain such as continuous arco, tremolo and to some extent even the resonance following pizzicato in the bass registers diversify and control the sounds within expressive timbral devices (articulations and sustains and additionally registral locations and dynamics). As previously mentioned, dynamics and registral contrasts accentuate timbres and control resonances within the cello and double bass material as illustrated in examples 30 and 31 below.

Ex. 30: (bars 85 – 89)



Rhythmic articulations are disparate as the sustain feature of the original motif is explored through the other instrumental sonorities. The nature of how each instrument emulates the motif displaces it from the nature of the original introduced by the non-pitched drums at the opening of the piece. Where material is spread apart in the register in addition to dynamic fluctuations a greater sense of timbral dimension and variation is realised. Additionally, closely arranged contrasting sonorities are effectively enhanced by opposition, for example, as illustrated in bar 89 in the demonstration above pairing B flat in the bass line with artificial harmonics in the cello line. As a result, the sonorities are accentuated by the stark differences of the other.

Ex. 31: (bars 94 - 99)

Ex. 31 shows musical notation for Violoncello (Vc.) and Double Bass (Db.) across bars 94 to 99. The Vc. part begins with a *tutti pizz.* (tutti pizzicato) instruction and a forte (*f*) dynamic. The Db. part also begins with a *tutti pizz.* instruction and a forte (*f*) dynamic. In bar 97, the Vc. part transitions to *arco* (arco) with a *div.* (divisi) instruction and a *pp* (pianissimo) dynamic. The Db. part continues with *f* dynamics. The notation includes various note values, rests, and dynamic markings (*f*, *pp*, *ppp*) indicating the intensity of the sound.

Muted cluster oscillations previously represented in the harp material are reintroduced in bar 100 in the violin and cello lines (Ex. 32). Muting this combination of instruments and complementing the material with *sul pont.* identifies with the sustaining cluster oscillation. These technical applications establish a particular expressive narrative timbral device which identifies and positions the material within the acoustic soundscape. The readapted cluster oscillations deviate from that of the harp's version of the motif as the bowing technique alters the texture removing re-articulations and connecting the pitches within a single bowed gesture.

Ex. 32: (bar 100)

Ex. 32 shows musical notation for Violin I (Vln. I) and Violoncello (Vc.) in bar 100. The Vln. I part is marked *sul pont.* (sul ponticello) and *con sord.* (con sordina), with a forte (*fp*) dynamic. The Vc. part is also marked *sul pont.* and *con sord.*, with a forte (*fp*) dynamic. The notation includes various note values, rests, and dynamic markings (*fp*) indicating the intensity of the sound.

Marking the beginning of section three at bar 122 the united forces of the full ensemble reintroduce the attack feature of the opening percussion motif. Counterpoint is re-established in this section as harmonies are enhanced infusing combinations of quartal harmonies within chordal structures. The harmony employed from this point remains quite static and primarily contributes to the aggressive character of the attack feature as an additional timbral feature. The evolutionary processes of the overall sound-world are manifested through the attack and sustain components which provide the structural platforms through which timbre is realised and varied. The two motivic features are developed as a result of evolving timbres which are explored through applications of orchestration including techniques, registral placement and instrumental combinations.

Example 33 below demonstrates contrast between sustaining events. The violins (bar 128 – 130) sound at their upper register followed by an imitative response at the low extreme of the cello and double bass register complemented by *sul ponticello*.

Ex. 33: (bars 128 – 132)

The musical score for Ex. 33 (bars 128–132) is written for five instruments: Violin I, Violin II, Viola, Violoncello, and Double Bass. The score is divided into five measures, each with a different time signature: 3/4, 4/4, 3/4, 4/4, and 2/4. The first two measures (bars 128 and 129) are marked with a 3/4 time signature and include the instruction '(front two desks)'. The third measure (bar 130) is marked with a 4/4 time signature and includes the instruction '(divisi)'. The fourth measure (bar 131) is marked with a 3/4 time signature and includes the instruction 'tutti ord. div.'. The fifth measure (bar 132) is marked with a 4/4 time signature and includes the instruction 'tutti ord. div.'. The score features various dynamic markings, including *ppp sub*, *f sub*, *sfz*, *mp*, and *f*. The Viola part includes the instruction 'sul pont.' in the third and fifth measures. The Violoncello part includes the instruction 'senza sord.' in the fourth measure. The Double Bass part includes the instruction 'sul pont.' in the fifth measure. The score is written in a complex, non-linear fashion, with many notes and rests that are not clearly defined by the staff lines.

The degree of harmonic spacing across the extreme ends of the upper and lower register of the ensemble remains nearly constant throughout this section while briefly isolating the low end of the ensemble's register (bars 131 and 132 illustrated above). These moments of isolation create stark contours within the tessitural spectrum. Other instances can be observed in bars 137, 151 – 153 and between bars 158 – 161. As in my other works, registral diversity distinguishes sonorities and magnifies distinct timbral contours. In contrast to the opening, bars 215 through to the end conclude this piece without the drums while the sustaining component of the opening motif completes the process of the evolution of the sound-world with static natural and artificial harmonics.

The musical content emerges and develops entirely out of the interest in the nature of the sound production of the drums and how components of this can be emulated and developed as timbral themes throughout the piece. These structures are a means through which timbre is explored. The re-adaptation of the elemental content as material for other instruments and instrumental combinations was the overall applied process for generating and evolving expressive timbral devices, and ultimately realising an overarching sound-world.

6. *Adrift*

Unlike (*...through the clouds towards the rising sun*), this piece relies primarily on orchestration rather than counterpoint as a means for realising the sound-world that characterises this piece. The employment of amplification is unique to this piece within the portfolio. This additional feature complements the sound-world by amplifying instrumental sonorities, and thus distinguishing timbre in this piece from the context of others within this portfolio. The

orchestrational components central to the realisation of timbre are instrumental combinations, techniques and the distribution of material across the ensemble's registers, all of which are equally conducive to the modification of the overall sonic plane.

The structure of the material is divided into a series of interconnected sections in which timbre is elaborated and developed. The short motifs established in the opening are developed throughout the piece and varied as they are adapted to the other instruments. This more aggressive, punctuated material is restricted to the ensemble's lower register, while contrasting material extends into the higher register through the use of harmonics, *sul ponticello*, and blends of the two appropriated within more rhythmically relaxed and smoothly articulated material. Effectively sound is manipulated through applications of these techniques producing alternate sonorities. When blending instrumental sonorities of fundamental or manipulated pitches, the sum of the sequence generates an alternative or hybrid-sonority. These processes and timbral results are applied as expressive narrative timbral devices (constructed sequences by which timbral outcomes are realised and controlled) which are ultimately conducive to characterising the sound-world of the work and to the timbral variations within it. This process can be similarly observed within the timbral design of *Light Upon Darkness*.

Similarly to *Glaciers*, the opening of the piece begins with percussion introducing material that is later developed by the entire ensemble. Orchestrated for three different drums including timbales sticks and medium mallets, colour variation in this context is explored in a similar way to that of *Glaciers* and *Trio Per Uno*. Lines are varied, as exhibited in the opening, by alternating playing on different drums, and all at the same time, and striking the drumhead in different places. The use of dynamics not only shapes the phrases of the material, but also accentuates timbres; as soft and loud attacks significantly vary the resonant sonorities.

Inspired by the timbral outcome through scordatura in *Alone*, I have applied it again but for different purposes; in this case to assemble a quarter-tone clustered trichord between the 5 string violin and two cellos at the extended lower end of the register. Scordatura also detunes the guitar and while it equally extends the ensemble's low register the guitar functions independently of the cluster arrangement between the bowed strings. My predilection for tense, unsettling resonances led to the idea for dividing scordatura across the strings in this way. Illustrated in the examples below are different applications of the function.

Ex. 34: (bars 20 – 22)

20 con sord. V

Vln.

pp — *f* *p sub*

Vc. 1

IV

pp — *f* *p sub*

Vc. 2

pp — *f* *p sub*

Ex. 35: (bars 30 – 32)

30

Vln.

pp sub — *sfz* *p sub*

Vc. 1

pp sub — *sfz* *p sub*

Vc. 2

IV

p

Ex. 36: (bars 50 – 53)

50

Vln.

Vc. 1

Vc. 2

Ex. 37: (bars 94 and 95)

94

Vln.

Vc. 1

Vc. 2

pp

Ex. 38: (bars 125 – 129)

The distorted tone of the guitar destabilises the resonances of the stable perfect intervals that dominate the guitar material. Reinforcing tension sonorities generated by the other string instruments, this manipulation creates a sustaining ambience surrounding the material in addition to the piano's pedal tone effects.

Unlike (*...through the clouds towards the rising sun*) and *Glaciers* where the entire register of the piano is used as a mean for diversifying colour in tone resonances, in this context, the piano material is restricted to the lower end of the register. Inspired by George Crumb's music, I have incorporated string damping from inside the piano.²⁰ The treatment of timbre as a priority element within my own compositions was partially informed by the idea of his aesthetic approach to timbre. According to Richard Taruskin in *Music in the Late Twentieth Century*:

Crumb was one of the first composers (in the 1980s their number would multiply) to make timbre his primary creative preoccupation, varying and nuancing it with great subtlety and resourcefulness while reducing the music's formal structure to simple repetitive or strophic designs and stripping its sound surface down to bare monodic or heterophonic textures.²¹

Other inspiring examples include his imaginative uses of timbral possibilities within *Eleven Echoes of Autumn*²² and *Makrokosmos*.²³ The string damping technique of piano sonorities applied within my own work was specifically inspired by the sound manipulation effects within the context of *Primeval Sounds* from volume 1 of *Makrokosmos*. Although the piano parts within these works include an abundant variety of effective sound modifications, I was drawn to this particular sonority for its enhanced 'string bass-like' resonant effect. Equally, I found Crumb's use of the sostenuto pedal to sustain specific pitch resonances to be very striking. I

²⁰ Lester, Joel, *Analytic Approaches to Twentieth-Century Music*, First Edition, New York, U.S.A: W.W. Norton & Company, Inc., 1989. 288 – 294. On the subject of timbre this source provides insight into Crumb's music, in that of John Cage, Penderecki, Harvey Sollberger reflecting non-traditional timbres and in that of Stockhausen and Davidovsky regarding electronic music.

²¹ Taruskin, Richard, 'Music in the Late Twentieth Century', in: Vol. 5, *The Oxford History of Western Music*, N.Y., U.S.A.: Oxford University Press, 2010, 423.

²² George Crumb – *Eleven Echoes of Autumn*

²³ George Crumb – *Makrokosmos Vol. 1 – Primeval Sounds*

Ex. 39: (bars 15 – 19)

Ex. 40: (bars 46 – 49)

Through the use of the string damping technique, harmonic glissandi complement the material in the string section as demonstrated in example 41 below. The effects between the piano and cello lines invoke non-specific pitches while violin harmonics maintain the sense of pulse. Excluding the ensembles lower register sonorities, this collective blend of manipulated sonorities extends the ensemble's pitch spectrum into the higher reaches of its register contributing stark registral contrast to the overall sonic plane of the work (Ex. 41).

²⁴ Read, Gardner, *Contemporary Instrumental Techniques*, 1976. 55 and 56 – Provides information regarding other contexts within which this piano technique and others have been applied. This source also refers to relevant works of George Crumb and additionally as mentioned, *Eleven Echoes of Autumn*.

Ex. 41: (bars 104 and 105)

104

Pno.

sfz pp *f* *p*

Vln.

pp *f* *p*

Vc. 1

pp *f* *p*

Vc. 2

pp *f* *p*

begin sliding up the string up to six inches from the edge while gradually speeding up.

gliss.

top: begin 6 inches from edge and slow down gradually while sliding down the string back to the edge.

gliss.

damping near edge as original

As the material predominantly resides in the lower register of the ensemble, sections such as the illustration in examples 41, bars 17 and 18, 20 and 21, 69 – 72, 89 – 91, 97 – 100 and 107 – 111 extend into the upper register through harmonics and the filtering qualities of *sul ponticello*. As in *Alone*, I have applied *sul ponticello* to obfuscate the low resonances which produce a manipulation that focuses high resonating overtones within the sound colour spectrum. These distinctions are crucial to the overall sense of registral contour and thus influencing the sound-world's envelopment of expressive timbral formations.

Through combinations of instrumental and colour-modified timbres, which were generated to be featured as expressive narrative devices that distinguish events within the sound-world, the fundamental timbral character of each instrument is a result of manipulation through applied techniques. Contrasted against variably different sonorities these characterising timbres and hybrid-timbres collectively shape and embody the nature of the sound-world.

7. *Embrace*

The structural motif embodying this work engages the attack and sustain motif once again. As it was applied as a structural element through which timbre was manifested in *Glaciers*, and revisited in *Adrift*, as a means for creating sustaining timbral resonances in the piano material, *Embrace* embodies this motif as the primary structural element of the piece. Development of this motif, its attack and resonance features, relies primarily on timbral variation. Although the sound-world was not approached in this context as something that develops or evolves into something new, it nevertheless consists of arrangements of restructured sonorities positioned to diversify timbre through counterpoint, registral displacement and dynamics.

This composition was designed to express the very different timbres of the clarinet and cello through a means of dynamic contrasts and registral expansion and contraction in chordal contexts. That these two instruments never blend is by design, however their combined sonorities are further exaggerated through simultaneous opposition of pitch extremes within the limits of their own registers and through re-orchestrated trichord cluster arrangements. Examples 42, 43 and 44 below exhibit the sonorous versatility of the attack and resonance motif through variations of the expansion and contraction of cluster arrangements in congruence with dynamic contrasts.

Ex. 42: (bars 1 – 4)

♩ = 80 aggressively, abrasively

Clarinet in Bb

Violoncello

ff *mf* *f* *p* *ff*

ff *mf* *f* *p* *ff*

Ex. 43: (bars 88 – 92)

pp sub *ff sub* *pp sub* *ff sub*

pp sub *ff sub* *pp sub* *ff sub*

Ex. 44: (bars 149 – 152)

p sub *f* *p*

f *p sub* *f* *p sub*

Stable intervals are presented in the harmony as contrasting resonant features against the clusters and create a sense of relaxation within the harmonic field. These contrasting harmonic functions, conducive to timbral contouring, are applied frequently in my music as expressive timbral devices within harmonic phrases. Features of opposite natures (dynamically, harmonically and registrally) are effectively strengthened within shared contexts accentuating the other. This device is frequently used, for example, within (*...through the clouds towards the rising sun*) and *Adrift*.

Bars 26 – 29 exclude dissonant intervals and consist of mostly perfect intervals. This is an example of how this arrangement stands as a harmonic contrast to that of most of the piece. Another example is the organisation of parallel 5ths in bars 47 – 51. It is a sequence dominated

by relaxed, resolution intervals within which the point of greatest tension is introduced at the tritone (bar 50). Perfect intervals and unisons in particular are accentuated within a context dominated by more tense resonances, highlighting them as focal points within the context of the unstable resonances of the trichord clusters.

Variations of the combined timbral shaping effects are illustrated throughout the piece.

Example 45 below demonstrates expanded and contracted contrapuntal relationships moving in contrary motion displacing the octave in bar 87. Bars 88 and 89 reduce the cluster to the lower register and dynamic level before bar 90 where the trichord cluster is starkly reintroduced. This sequence of dynamic attributes is an embodiment of all the shaping features that generally characterise the material and shape the soundscape of the work.

Ex. 45: (bars 87 – 90)

The harmonic tension and resolution, sharp registral displacements, expansion and contraction of pitches across the ensemble's register and extreme dynamic levels of which the material is constituted are the devices used to control and realise timbre and timbral shape.

8. *From Darkness*

This piece is concerned throughout with the evolution of material at the string orchestra's extreme registral limits, thus generating the overarching sound-world. In addition, this process commands timbral devices, within contrapuntal contexts, extending to natural and artificial harmonics, muting, sul ponticello and pizzicato. Applied orchestration (in the sense of constitutive determinations) primarily orientates itself here around register, under the direct influence of various instrumental techniques. The interchange between fundamental and low register pitches and string harmonics, for example, is of particular significance.

The opening of the piece introduces the melodic material at the lower end of the cello's register as shown below in example 46, muted so as to filter out higher frequencies. The double bass section, meanwhile, accompanies the soloist in the same register so as to create a similar sonority to that of the solo cello, further modifying the melodic, timbral resonances and partially blending the material of both sections. Assuming a fundamental role in the sound-world's

atmospheric ambience, the bass section subtly interferes with the projection of the melodic material, naturally modifying its timbral resonances. Stronger dynamics then punctuate the muted solo material, defining it, so that it contrasts with the accompanying material. As an unmuted solo cello line would produce an austere and more starkly audible tone, my intention instead was to create a richer, darker modification of the original tone.

Ex. 46: (bars 1 – 4)

♩ = 52 Expressive, dramatic, lamenting
solo, con sord.

Violoncello

Double Bass

(tutti)

f espress. *p* *f* *p sub* *sfz* *p sub* *sfz* *p sub* *f* *p*

fp *sfz* *p* *sfz* *mf* *p sub* *f* *p*

A comparable approach to this timbral character of the melody also occurs in bars 10 and 11 as shown in example 47 where a fragment of the melodic material is passed on to solo violin I. In this instance, however, the melody and sustaining ambient accompaniment are both placed in the higher end of the ensemble's register while still obtaining results similar to that of the opening at the opposite end. The upper-register solo line sits in a bed of oblique tremolo harmonics with the second violins positioned at the same pitch range and the violas at just a couple of octaves below. As in the opening, this arrangement of the material allows for the surroundings of the accompaniment to fade the resonances of the solo material. In addition to these surroundings, the application of the mute also modifies any potential starkness, interfering with the projection of solo lines and equally that of the accompaniment.

Ex. 47: (bars 10 and 11)

The musical score for Ex. 47 (bars 10 and 11) is arranged in seven systems, each with a solo part and a group part (gli altri or le altre). The staves are: solo (treble clef), Vln. I (treble clef), gli altri (treble clef), Vln. II (treble clef), gli altri (treble clef), sola (bass clef), and Vla. (bass clef). The le altre part is also in bass clef. The score includes various dynamics: *mf*, *ff*, *mp*, *p*, and *ppp*. There are also markings for 'con sord.' (con sordina) and 'I', 'II', 'III' indicating different sections or parts. The solo parts feature melodic lines with slurs and accents, while the group parts provide harmonic support with sustained notes and chords.

Following on from the violin I solo, at bar 11 in the solo violin II and solo viola parts, the melodic fragments enter into a homophonic relationship characterised by parallel 5ths. The melodic material and its derivatives identify with the strong tonal resonances of 5ths and this interval thus characterises much by way of the harmonic relationships between lines throughout this piece. In almost continuous parallel motion, the melody develops through displacement among sections as it discontinues in one and continues on again in another, promoting colour variation through sectional and registral shifts within the ensemble. Where the melody progresses in this manner, the ambient-type accompaniment proceeds similarly, almost always sustaining relationships of a perfect 5th between lines.

The perfect 5th is delineated and made explicit through harmonic relationships where the melodic content is homophonic and within most of the 'sustain' content. What makes it recognisable is not only that it persists nearly relentlessly throughout the entire piece, but also where it is temporarily discontinued. When it is interrupted, an exchange between resonances obtains and thereby diversifies and distinguishes the dominant resonance of the 5th within the timbral strand.

Examples 48, 49 and 50 below illustrate some of the varying occurrences of the developing melodic segments and the 'sustain' material. They depict the varying homophonic relationships

between lines in different sections within the first half of the piece. Each example presents the material from different sections of the ensemble.

Example 48 demonstrates the homophonic relationship of perfect 5ths between the violin II and viola solos from bars 11 – 13. Here, the two lines move entirely in parallel motion, sustaining the resonant sonority of the 5th; the sustaining pitches surrounding the melodic content, meanwhile, continue providing the atmosphere in which the primary material is partially subdued.

Ex. 48: (bars 10 – 13)

The musical score for Example 48, covering bars 10 to 13, is presented for five parts: solo violin I, violin II, other violins, solo viola, and other violas. All parts are marked 'con sord.' (con sordina). The solo violin I and II parts play a melodic line with a perfect fifth interval, while the other parts provide a sustained harmonic background. Dynamics range from ppp to f. The score includes slurs, accents, and a 3-measure rest in bar 11 for the solo violin I part.

In this instance, unlike example 48 above, the parallel motion of the homophonic relationship between the solo violin I and solo violin II lines is interrupted at bars 19 and 20. Although it generates subtly audible interference, the occasional breakage of the continuing parallel motion of stable 5ths with that of the consonant 3^{rds} in bar 19, and the 4ths in bars 19 and 20, allows for a measure of harmonic variation. These instances highlight the nearly relentless, striking resonant feature by interrupting its continuity and occasionally interjecting other intervals with different consonant or even dissonant resonances. These brief interruptions render the sonority of the perfect 5th explicit within the harmonic timbral strand.

Ex. 49: (bars 18 – 20)

Ex. 49 shows a musical score for four staves: solo Vln. I, gli altri Vln. I, solo Vln. II, and gli altri Vln. II. The score spans three measures (bars 18, 19, and 20). The first two staves (Vln. I) and the last two staves (Vln. II) feature a melodic line with a triplet of eighth notes in the first measure, followed by a series of eighth and sixteenth notes. The dynamics are marked as *p*, *f*, *p sub*, *mf*, *f*, *p*, *mf*, and *p sub*. The third staff (gli altri Vln. I) has a sustained chord in the first measure, followed by a melodic line in the second and third measures. The fourth staff (gli altri Vln. II) has a sustained chord in the first measure, followed by a melodic line in the second and third measures. The dynamics for the third and fourth staves are marked as *mf* and *p sub*.

Similar to example 48, the homophonic relationship of the melody between the viola and cello, in bars 22 and 23 in the example below, persists entirely with 5ths in parallel motion. A static timbre is generated through this uninterrupted homophonic motion, and therefore distinguishes this event as a functional timbral device. It identifies with nearly all occurrences of the melodic variations as shown in examples 48, 49, 50 and even 51 below, which distinguishes perfect 4ths, and even in most cases where there are motivic derivatives, for example, as in bar 22 between the 1st and 2nd violins.

Ex. 50: (bars 21 – 23)

Ex. 50 shows a musical score for two staves: Vln. I and Vc. The score spans three measures (bars 21, 22, and 23). The first measure (bar 21) is marked 'tutti' and features a sustained chord in both staves. The second and third measures (bars 22 and 23) feature a melodic line in both staves, with a triplet of eighth notes in the first measure. The dynamics are marked as *p*, *f*, and *sfz*.

Example 51 below focuses on the intervals between the 1st violins, 2nd violins and solo cello. Occasionally, the nearly consistent timbral effects of harmonic relationships between homophonic melodic lines are varied where they consist of parallel 4ths as demonstrated in this instance.

Ex. 51: (bars 27 – 28)

Ex. 51 shows the musical notation for bars 27 and 28. The score is for three staves: Vln. I, Vln. II, and Vc. (Violoncello). The key signature has one flat (B-flat). The time signature is 3/4. The Vln. I and Vln. II parts are marked 'tutti' and 'mf' (mezzo-forte) at the start of bar 27, then 'f sub' (forte, *subito*) in bar 28. The Vc. part is marked 'solo' and 'f sub' in bar 28. A triplet of eighth notes is indicated in the Vln. II and Vc. parts in bar 28.

The example below is an illustration of a reduction of bar 29 depicting the multiple occurrences of perfect intervals between lines with sustaining material. For example, between the A flat in the cello section, following the triplet motif, and the E flat in the first violin section, the C-G-D chord arranged between the violas and the second violins, including between the A in the double bass and the D in the second violin sections. All the sustaining pitches, including the pizzicato gestures in the cello and bass lines, facilitate the particular prevalent timbral identity of the parallel harmonic relationships. Additionally, these harmonic timbral resonances are characteristic of relationships between much of this material throughout this piece.

Ex. 52: (bar 29)

Ex. 52 shows the musical notation for bar 29. The score is for five staves: Vln. I, Vln. II, Vla. (Viola), Vc. (Violoncello), and Db. (Double Bass). The key signature has one flat (B-flat). The time signature is 3/4. The Vln. I, Vln. II, and Vla. parts are marked 'non divisi' and 'mp' (mezzo-piano) at the start of bar 29, then 'p' (piano) in the second half of the bar. The Vc. part is marked 'pizz.' (pizzicato) and 'mf' (mezzo-forte) at the start of bar 29, then 'arco' (arco) and 'p' in the second half of the bar. The Db. part is marked 'pizz.' and 'mf' at the start of bar 29, then 'arco III' and 'mp' in the second half of the bar. A triplet of eighth notes is indicated in the Vc. and Db. parts in the second half of bar 29.

Bars 34 and 35 in the following example demonstrate ‘sustains’, short triplet motifs and melody lines, between which, the harmonic relationship of 5th denotes characteristic timbral identity. Meanwhile, the melodic line, shared by the solo viola and solo cello, is positioned apart by an interval of a 5th at the low end of the register where it stands out amongst dynamically reduced,

high-pitched surroundings. These components of the soundscape are constituents of prominent expressive narrative timbral devices that influence and shape the sound-world.

The homophonic, parallel relationships between multiple lines, amongst much of the content, underpins the resonance of the perfect 5th. This feature is as significant to the soundscape as the surrounding resonance and it delineates the interval as a primary timbral feature of the distinguishing sound-colour of the work.

Ex. 53: (bars 34 and 35)

Più mosso ♩ = 63

The musical score for bars 34 and 35 is presented for a string ensemble. The tempo is marked 'Più mosso' with a metronome marking of 63. The key signature has one flat (B-flat) and the time signature is 3/4. The parts are arranged as follows:

- Violin I (Vln. I):** Bar 34 has a half note (♩) with a fingering of III. Bar 35 has a triplet of eighth notes with a fingering of III, II, I. Dynamic: *mp*.
- Violin II (Vln. II):** Bar 34 has a half note (♩) with a fingering of (♩). Bar 35 has a triplet of eighth notes with a fingering of III, II. Dynamic: *mp*.
- Solo Violoncello (sola Vc.):** Bar 34 has a triplet of eighth notes with a dynamic of *p*. Bar 35 has a half note with a dynamic of *f*.
- Viola (Vla.):** Bar 34 has a triplet of eighth notes with a dynamic of *p*. Bar 35 has a half note with a dynamic of *f*.
- Other instruments (le altre):** Bar 34 has a half note (♩) with a dynamic of *mf*. Bar 35 has a half note (♩) with a dynamic of *mf*.
- Solo Cello (solo Vc.):** Bar 34 has a triplet of eighth notes with a dynamic of *p*. Bar 35 has a half note with a dynamic of *f*.
- Other instruments (gli altri):** Bar 34 has a half note (♩) with a dynamic of *mf*. Bar 35 has a half note (♩) with a dynamic of *mf*.

The composition eventually becomes saturated with harmonics, especially in the final bar at the end. Natural and artificial harmonics throughout the piece, while further extending the upper register, also serve to create timbral transitions. As a result, a dramatic colour contrast to that of the opening depicts a component of drastic evolution of the overall sound-world. The shift in register and the application of harmonics changes the timbre of the ‘sustain’ element and, as compared to the entrance between the solo cello and double basses, a stark contrast between the beginning and end of the piece are made explicit.

During this transition, harmonics are employed in tandem with fundamental pitches as demonstrated in the example below in bars 82 – 85 and all the way through to the double barline

before letter R. Timbral devices, consisting of varying combinations of pitch doublings, artificial harmonics and fundamental pitches, resonate simultaneously between sections producing a distinctive hybrid-timbre. The blend ultimately unites two and/or three different sonorities depending on the combination.

The stable contrapuntal relationships here briefly subside until bar 84, as a tritone relationship between the first violin and viola sections in bar 82 combines with an interval of a minor 2nd, occurring between the second violin and viola sections. Meanwhile, this minor 2nd continues through to bar 85 where another minor 2nd relationship, between the bass and first violin sections, is presented. The comparative dissonance of this harmony briefly influences timbral variation by incorporating more intense harmonic resonances to contrast the more stable and relaxed resonances produced by the frequently occurring 5^{ths}.

Ex. 54: (bars 82 – 85)

The musical score for Ex. 54 (bars 82–85) is presented for a full orchestra. The score is written for Vln. I, Vln. II, Vla., solo Vc., gli altri (other cellos), and Db. (double bass). The key signature is one flat (B-flat), and the time signature is 3/4. The score begins at bar 82, marked 'tutti'. The dynamics are marked as *ppp* (pianississimo), *p* (piano), and *f* (forte). The score shows a complex interplay of timbral devices, including pitch doublings and artificial harmonics, creating a distinctive hybrid-timbre. The score is divided into two systems, with the first system covering bars 82–84 and the second system covering bars 84–85. The notation includes various musical symbols such as notes, rests, and dynamic markings.

The timbre of the melodic material varies as it shifts positions within the broad spectrum of the register and as it is exchanged between the different instrumental sections. Variations of doublings, employing techniques such as *sul ponticello* and harmonics, serve to create particular timbral devices. Below exhibits an example of this between the bass and cello sections and the first violin section where a homophonic relationship is maintained between the three lines. Another similar appearance of this combination of techniques can be found in bars 168 – 170 between the cello, viola and first violin sections. In this instance, the pitches between the violas and first violins sound in unison while the cello sits at two and three octaves below. The application of *sul ponticello* serves to modify the naturally occurring lower resonances of the line and draws out the higher frequencies of the pitches. Meanwhile, this blends the otherwise fundamentally low-resonating line with that of the higher pitched adjoined constituents.

Sul ponticello is applied to the double bass line which then blends with the harmonics in the cello section. Subsequently, a timbral device is generated, and as a result, a resonant hybrid-timbre manifests. This timbral structure is frequently used in *Light Upon Darkness*, however given the instrumentation, this particular blend is limited to the cello and violin. In the case of *From Darkness*, the timbral device is employed a little differently. It occurs and shifts between instrumental groups and the sections consist of a greater number of performers. Example 55 below illustrates a variation of this timbral device between the double bass, cello, and first violin sections. Other occurrences are found in bars 27 and 28 between the cello and viola sections, bars 31 and 32 between the cello and second violin sections, bars 73-75 between the double bass, cello and first violin sections, bars 77-79 between the double bass, viola and solo violin I sections, bar 80 between the cello and viola sections and in bars 168-170 between the cello and viola sections.

Ex. 55: (bars 99 – 101)

The musical score for Example 55 (bars 99-101) is presented for five instruments: Vln. I, Vln. II, Vla., Vc., and Db. The score is written in 3/8 time and features a key signature of one sharp (F#). The dynamics and performance instructions are as follows:

- Vln. I:** Starts with *mf* in bar 99, transitions to *p* in bar 100, and returns to *mf* in bar 101. A *pp* marking appears at the end of bar 101. The instruction "senza sord." is present.
- Vln. II:** Starts with *mf* in bar 99, transitions to *p* in bar 100, and returns to *mf* in bar 101. A *pp* marking appears at the end of bar 101. The instruction "senza sord." is present.
- Vla.:** Starts with *p* in bar 99, transitions to *pp* in bar 100, and returns to *pp* in bar 101. The instruction "senza sord." is present.
- Vc.:** Starts with *ff* in bar 99, transitions to *p* in bar 100, and returns to *mf* in bar 101. A *pp* marking appears at the end of bar 101. The instruction "senza sord." is present.
- Db.:** Starts with *ff* in bar 99, transitions to *p* in bar 100, and returns to *mf* in bar 101. A *pp* marking appears at the end of bar 101. The instruction "senza sord." is present.

Performance instructions include "arco" for the Vc. and Db. in bar 100, and "sul pont." for the Db. in bar 100. The instruction "senza sord." is present for all instruments in bar 101.

As shown below, the 'sustain' element in the double bass section consists of a timbral device employing sul ponticello, altering the fundamental sonority while drawing out higher frequencies. At the same time, half the second violin section sustains a G sharp/A flat and a C sharp/D flat with harmonics and sounding five octaves above the double basses. Additionally, the resonance of the 5th between the two pitches and the harmonics in the second violin section blend with the resonances of the modified bass line to create another particular hybrid-timbre; an ethereal, timbral result which functions as a timbral device.

Ex. 56: (bars 110 – 112)

Ex. 56 is a musical score for five instruments: Violin I, Violin II, Viola, Cello, and Double Bass. The score is in 6/8 time and consists of three measures. A box labeled 'S' is above the first measure. The Violin I part starts with a *sim* (sustained) marking and features a melodic line with a *p* (piano) dynamic in the first measure, followed by a *f* (forte) dynamic in the second measure. The Violin II part is marked *divisi* and features a *p* dynamic in the first measure, followed by a *f* dynamic in the second measure, and a *ff* (fortissimo) dynamic in the third measure. The Viola part features a *p* dynamic in the first measure, followed by a *mf* (mezzo-forte) dynamic in the second measure, and a *ff* dynamic in the third measure. The Cello part features a *p* dynamic in the first measure, followed by a *mf* dynamic in the second measure, and a *ff* dynamic in the third measure. The Double Bass part features a *p* dynamic in the first measure, followed by a *mf* dynamic in the second measure, and a *ff* dynamic in the third measure. A *sul pont.* (sul ponticello) marking is present above the Double Bass part in the second measure.

Example 57 below is an illustration of other similar timbral devices applied within the ‘sustain’ material shown in the demonstration above. In this case, the device occurs in the melodic material in the form of two slightly different variants. Bars 166 – 168 delineate a timbral transition of the melodic content, specifically regarding the homophonic motion of the melodic line between the double bass, cello, and first violin sections. The cellos and first violins sound in unison, creating a single timbre, while the cello line ascends through the application of artificial harmonics. Furthermore, the violas sound nearly two octaves lower at an interval of a 5th, thus producing another timbral device; a result of the combination of the first violin and viola lines in these particular registers and the modified cello line. At the end of bar 168, the melodic timbre shifts as the three sections now play the same pitches, eliminating the resonance of the 5th and incorporating *sul ponticello* in the cello section.

Ex. 57: (bars 166 – 169)

Ex. 57 is a musical score for five instruments: Violin I, Violin II, Viola, Cello, and Double Bass. The score is in 6/8 time and consists of four measures. The Violin I part starts with a *tutti* marking and features a melodic line with a *ff* (fortissimo) dynamic in the first measure, followed by a *p sub* (piano subito) dynamic in the second measure, and a *ff* dynamic in the third measure. The Violin II part starts with a *tutti* marking and features a melodic line with a *ff* dynamic in the first measure, followed by a *p sub* dynamic in the second measure, and a *ff* dynamic in the third measure. The Viola part starts with a *tutte* marking and features a melodic line with a *p* dynamic in the first measure, followed by a *ff* dynamic in the second measure, and a *p sub* dynamic in the third measure. The Cello part features a melodic line with a *p* dynamic in the first measure, followed by a *ff* dynamic in the second measure, and a *p sub* dynamic in the third measure. The Double Bass part features a melodic line with a *p sub* dynamic in the first measure, followed by a *ff* dynamic in the second measure, and a *p sub* dynamic in the third measure. A *sul pont.* marking is present above the Double Bass part in the second measure. A *pizz.* (pizzicato) marking is present above the Double Bass part in the fourth measure.

Letter R marks the beginning of a significant transition in the piece. Mutes are removed from the entire ensemble, adjusting the timbre to obtain sharper and more luminous resonances. The tempo becomes faster and more rhythmically diverse as the original melodic material subsides and new material is introduced. In this section, the new material sets the framework through which the ‘sustain’ material gradually transitions while still continuing almost relentlessly.

The ethereal and transparent nature of the material before letter R compares to that of *Light Upon Darkness*. The sustaining material in both pieces characterise the overall soundscape while at the same time, it is a structural component through which timbres and distinct colours manifest. This ambient, static surrounding is equally as fundamental to the shaping and contouring of the sound-world as are the melodic, harmonic (intervallic) and registral components and their varying combinations. Colours emanated from this feature are made explicit through applications of techniques that modify and diversify instrumental sonority, such as harmonics, sul ponticello and registral displacement.

Examples 56, 57 and 58 and 59 below illustrate developing melodic material in combination with timbrally diverse and evolving ‘sustain’ material. The first violin section at letter S, as seen in example 56, marks the first occurrence of what later becomes the new form of the sustain content. Consisting of greater rhythmic variety, newly employed combinations of harmonics and fundamental pitches persist in tandem with the original sustain content as demonstrated in the following examples.

Ex. 58: (bars 123 – 125)

U

123

Vln. I

Vln. II

Vla.

tutti divisi

Vc.

tutti divisi

Db.

mf *p sub* *mp* *f* *ppp sub*

Ex. 59: (bars 150 – 152)

The musical score for Ex. 59 (bars 150–152) is written for a string quartet. The key signature is one sharp (F#) and the time signature is 3/4. The score includes five staves: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Double Bass (Db.).

- Vln. I:** Starts at bar 150 with a *divisi* marking, playing a triplet of eighth notes (F#, A, C) marked *mp*. In bar 151, it continues with triplets marked *mf*. In bar 152, it plays a single eighth note (F#) marked *p*, with a *unis* (unison) marking above it.
- Vln. II:** Plays a sustained chord (F#, A, C) from bar 150 to bar 151. In bar 152, it plays a triplet of eighth notes (F#, A, C) marked *mf*, with a *unis* marking above it.
- Vla.:** Plays a triplet of eighth notes (F#, A, C) in bar 150, marked *mf*. In bar 151, it continues with triplets marked *mf*. In bar 152, it plays a triplet of eighth notes (F#, A, C) marked *mf*, with a *unis* marking above it.
- Vc.:** Plays a triplet of eighth notes (F#, A, C) in bar 150, marked *mf*. In bar 151, it continues with triplets marked *mf*. In bar 152, it plays a triplet of eighth notes (F#, A, C) marked *mf*, with a *unis* marking above it.
- Db.:** Plays a triplet of eighth notes (F#, A, C) in bar 150, marked *mf*. In bar 151, it continues with triplets marked *mf*. In bar 152, it plays a triplet of eighth notes (F#, A, C) marked *mf*, with a *unis* marking above it.

Between letter S and the end, the repetitive rhythmic, ‘sustain’ material intervenes with melodic material and recedes into the background. This constant interchange progresses until the end of the piece where content nearly entirely transforms into the new, more rhythmic form of the ‘sustain’ material while saturated with harmonics. This timbrally static atmosphere accompanies the solo melody line sounding at the top end of the violin’s register while only subtly modifying its naturally stark and penetrating sonority.

Timbral contouring within all the material in this piece is largely due to these factors: the position in the pitch register, harmonic (intervallic) relationships, applications and varying combinations of harmonics, the naturally occurring fundamental pitches and *sul ponticello*. Throughout this work, segments of material altered through varying applications of the listed factors above, function as constituents of varying narrative timbral devices that dictate the shaping of the overall sound-world.

Unlike (*...through the clouds towards the rising sun*) and *Glaciers*, there is no attack element with which the ‘sustain’ feature is associated. The distinctive attack and decay features of the pizzicato technique are not applied as an initiation of events as in *Light Upon Darkness* nor are they applied as a structural basis on which content is developed as in *Glaciers*. They do however temporarily interrupt the static nature of this nearly continuous material. As a fundamental timbral element in and of itself, it serves as a modifier of the natural melodic resonances in addition to the muting component. This ‘sustain’ material interferes with the resonant projections of other materials, reducing clarity by moderating the sharper contours of melodic material in conjunction with the muting. This in turn, blends the melodic content more with its surroundings. The registral positioning of the lines, whether they are in similar or

opposite registers, affects the degree to which they blend or stand out. In both pieces, this element is featured as a fundamental asset to the nature of both sound-worlds despite the differences between their narrative timbral functions.

Content consists of the melodic material embedded within variations of the ever-present ‘sustain’ sonority. All content is equally paramount to the colour contouring and the overall timbral evolution of the sound-world. As the ambient ‘sustain’ material evolves and gradually ascends to the upper register, it simultaneously becomes foreground material as all other content recedes. As the solo violin approaches the end, the transitioned ‘sustain’ element renders it somewhat deficient in the same way as it has rendered the solo cello deficient at the opening. Even during the transitions after letter R, the ‘sustain’ element maintains the same function throughout the entire piece. Ultimately by timbral design, both the melodic and ‘sustain’ content are equally as dominant in their roles in characterising a distinct sound-world.

9. Ambition: the Fury of the Blind Driver

The encompassing sound-world of this work consists of two defining strands of material specific to the idiomatic capabilities of the violin and piano. The dominant timbral components of the piece are made explicit through the harmony and the expansive register of the pitch spectrum. Unlike *From Darkness* and *Light Upon Darkness*, I have refrained from employing extended techniques such as harmonics, muting, and sul ponticello, in order to limit extensive colour contouring and delineation to only a few timbral components such as, registral extremes, stable sonorities in the piano part and pizzicato, open strings and double stops in the violin part. This limitation significantly emphasises the very persistent parallel motion of perfect 4th and 5th and equally that of the extreme registral contrasts. Both clearly focus the variations of resonant qualities unique to the instruments.

Harmonic sequences consist primarily of chords aligning quintal and quartal harmonies that progress almost entirely homophonically. The pervasive, stable resonances of timbral-sonorific relationships within the piano material are essential to manifesting timbral identity within the sound-world. Although the content within both the violin and piano parts is chromatic, the harmony does not move chromatically. The parallel quintal and quartal harmonies frequently move in short whole-tone progressions as shown in example 60 below.

Ex. 60: (bar 74 and bars 105 and 106)**Fig 1:** (bar 74)**Fig 2:** (bars 105 and 106)

Where the parallel quintal and quartal progressions relent, the semi-quaver material introduced by the violin is integrated into the piano part. The violin content, meanwhile, is then extended further down into the lower end of the piano's register in the interests of sonic variety. As the material from the opening is exchanged between the two instruments, the timbral effects are altered as the nature of their sound production differs, producing contrasting resonances. And due to the differences in articulation between the instruments, although both are governed by similar phrase markings, the piano delivers a more percussive articulation of this material while the violin expresses it in a more smoothly connected manner.

Example 61 below demonstrates this exchange where imitation between the two instruments occurs and quintal/quartal harmony only partially relents. The juxtaposition of the material sounding from the violin in bar 107 and then immediately repeated by the piano at the same pitch establishes the articulate yet complementary contrasts. Example 62, in turn, is one instance amongst many wherein the quintal/quartal harmony subsides completely and is replaced by the semi-quaver material in both the treble and bass lines of the piano. This example also represents multiple occasions within the music where this material is timbrally altered from its original guise through the violin's opening solo. While the material here is reproduced by both instruments at the same time, it sounds from within three different registral strata simultaneously. As this thematic content is exchanged between the instruments and their registers, further timbral diversification is introduced. A feature of the overall soundscape, this

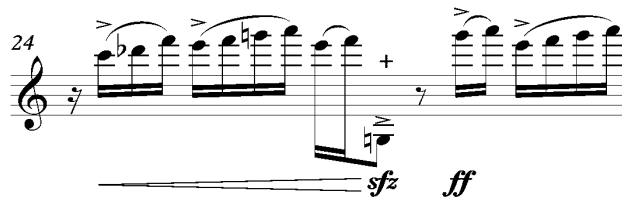
technique is instrumental in generating the fluctuations of sonority that vary and shape the encompassing timbral scope of the work.

Ex. 61: (bars 107 – 108)

Ex. 62: (bars 120 – 123)

Timbre within this piece is also made explicit through idiomatic features particular to the respective instrument and cannot be reproduced by the other. However, it is their roles that operate in a similar manner within this context, in that these features, illustrated in the following examples, function independently from the main body of content and contribute stark timbral contrast within the sound spectrum.

Example 63 demonstrates interruptions of abrupt, accented Gs articulated through left hand pizzicato. Serving as interruptions embedded within aggressively moving semi-quaver material, this elemental timbral feature creates stark contrasts in the registral spectrum and by how it is articulated amongst otherwise short and long legato phrases.

Ex. 63: (bar 24 and bars 132 and 133)**Fig 1:** (bar 24)**Fig 2:** (bars 132 – 133)

Example 64 presents a unity between the violin and piano as they both strike heavily in bar 149 and carry on sustaining the pitches. The articulate, effacing bowed Gs in the violin enforce the weight of the bow as a mode of changing the articulation and character within its surroundings. The piano possesses a related feature within its content as shown below in the bass line, although, unlike in the violin part, this feature, on all occurrences, possesses an attack and sustain feature. It introduces the piano material at the low end of the ensemble's register at the end of bar 52 with a powerful, effacing strike of the piano's bottom D with a G at two octaves and a 4th above, matching the violin's open G pizzicato attack. Harmonically, where these very low-register bass lines occur, they often resonate dissonances of 7ths and 4ths as shown in example 65 and perfect 5ths as the one illustrated in bar 149 below. The 7th is unique to this robust timbral feature further delineating it within the spectrum of timbral features.

Ex. 64: (bars 149 - 152)

Ex. 65: (bars 57 - 60)

These robust, accented low-pitched attacks are conducive to the extreme registral contrast of the timbral design. Additionally, as in *From Darkness*, the sustaining resonances that follow the stark articulations particular to the context of this work, form a pedal-tone-like surround sound. Frequently occurring as underlying material of other more active, and sharply articulate material, this powerful, low-resonating element modifies the above material. The degree of influence this feature has on other material is reliant on the positioning in the register in relation to this type of ‘sustain’ component. Where persistent elements of musical structure and timbre relent, they are as equally conducive to the shaping of timbral constructs as they are where they are present. Where the prolonged sonority subsides, articulations of primarily articulate content appears more sharply pronounced within the timbral framework. In its absence, the general register ascends towards the higher end and the quintal/quartal harmonic resonances become broader and more prominent. Where the bass line and sustaining features both relent at the same time, bass resonances subside completely, thereby altering the timbral nature of the soundscape as shown in example 66 below.

Ex. 66: (bars 162 and 163 and bars 166 and 167)**Fig 1:** (bars 162 and 163)

Fig 2: (bars 166 and 167)

The image shows a musical score for two staves, violin and piano, covering bars 166 and 167. The violin staff is on top, and the piano staff is on the bottom. Both staves are marked with 'sempre ff' (sempre fortissimo). The violin part consists of rapid, ascending and descending runs of eighth and sixteenth notes, with some rests. The piano part also features rapid runs, with a tritone interval highlighted in the final three bars of the piece. The key signature has one sharp (F#).

Particularly loud dynamics within the examples above, indeed through most of the piece, in addition to accented articulations, sharpen the timbral overtones of both instruments in their highest registers, and equally, the more robust and even pompous qualities of their lower registers. Specific examples can be seen in bars 200 and 201 where double stops are employed in the violin part in its bottom register, and as seen on the final page of the piece, especially in the last three bars of the finale where the ensemble strikes out at the farthest extremes of its registers. To add to the drama of the characteristically belligerent chords in the final three bars, I here introduce a tritone, and this serves to disrupt and partially eradicate the ever-present stability of the perfect 4ths and 5ths. Its resonance, however, isn't intended to be substantially distinguishable within the profound, dark overtones of the piano's lowest register, rather, it blends with these characteristics so as subtly to unsettle these purer sonorities.

The dramatic juxtapositions of opposing pitch extremes characterise the overall sonority of the sound-world. Quintal and quartal harmonies, open G pizzicatos, attack and sustain features and even the loud, abrasive articulations etched into the work's sonorous identity serve as primary devices to control and realise dynamic timbral shapes within the sound-world. These qualities and resonances are significantly impacted by the expansion and contraction of content across the broad range of the ensemble's registers. Indeed, it is the diversification of the melodic and harmonic content across these broad pitch spectra that discerns the varying resonances particular to each instrument, and these are inevitably generative of the dynamic timbral contours that shape the overall soundscape.

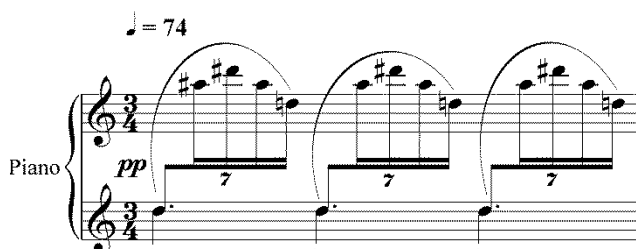
10. ...to a beginning from no end - Original

The original of this set of three works, *...to a beginning from no end* for oboe and piano, is a concise composition consisting of two motifs from which the material is developed. In comparison to many of the other works within this portfolio, the gestural, pointillistic nature of the material provides a very different platform through which timbre is explored as counterpoint is the primary mode through which timbre is made explicit. The arrangements of intervals are

realised within the horizontal context of melodic sequences similarly to that in the second section of (*...through the clouds towards the rising sun*) and unlike, for instance, the first section of the same piece where intervallic relationships are realised within vertical harmonic contexts. While these relationships are concentrated in the piano material, the oboe material is complementary in this piece, contributing to the dynamic shaping and textural density.

The piano introduces the piece with the first of the two primary motifs with a recurring intervallic trichord arrangement consisting of pitches D, D sharp and A sharp²⁵. The cluster appears in the piece as an inverted arrangement of the 2nd and 5th, which is also found in (*...through the clouds towards the rising sun*), *Embrace* and *Light Upon Darkness*. As a result of this unification, the contrasting resonant relationship between them evades any sense of harmonic resolution in the piece. The opening presented in example 67 below demonstrates the primary structure by which intervals are arranged and through which timbre is made manifest and example 68 illustrates the second motif (secondary/complementary material) where the oboe enters. Meanwhile the first variation of the motif in bar 3 exhibits two variations of the trichord; the 2nd and 5th (first triplet) and a trichord cluster (second triplet). These harmonic designs are also employed within *Embrace*, although in a more vertical contextual relationship; whereas within the context of this work, harmonic relationships are manifested within the horizontal context as clusters are arranged melodically where harmonic textures are thin.

Ex. 67: (bar 1)



Ex. 68: (bars 3 – 5)



From bar 14 as seen below, quartal harmonies are applied in the bass clef thickening textures and contrasting cluster harmonic resonances with more stable resonances of the entire harmonic

²⁵ [0,1,8] although I do not approach the analysis of my music in terms of pitch class theory.

sequence. This therefore creates an increase in harmonic tension as the density of chromaticisms amount to the climax in bars 14 and 15 (Ex. 69). These tensions are maintained until the music returns to the familiar opening motif.

Ex. 69: (bars 13 – 15)

The musical score for Example 69, covering bars 13 to 15, is presented in a grand staff format. The key signature is one flat (B-flat), and the time signature is 3/4. The score begins at bar 13, marked with a '13' above the treble clef. The first staff (treble clef) starts with a piano (*p*) dynamic and a triplet of eighth notes. The second staff (bass clef) features a triplet of eighth notes with a '7' below it, indicating a seventh chord. The music transitions to bar 14, where the treble staff has a triplet of eighth notes and the bass staff has a triplet of eighth notes with a '7' below it. The dynamic changes to forte (*f*). The music then moves to bar 15, where the treble staff has a triplet of eighth notes and the bass staff has a triplet of eighth notes with a '5' below it, indicating a fifth chord. The score ends at bar 15.

CHAPTER 2: Re-compositions

11. *Thebes and the Burden of Rulership* – Re-composition 1

This re-composition embeds the original material between two sections of new material based on a different harmonic arrangement and developed as a manifestation of timbre through the contrapuntal design of the melodic content represented by the flute and English horn. The decision to replace the piano with the flute/alto flute and the English horn was based on my attraction to their innate sonorities. It is the reason why I chose to feature the alto flute and English horn as soloists in the first and third sections and as a duo in the conclusion of the piece.

The material featured at the opening through to bar 22 was inspired by distinct heptatonic tone rows from the Arabic Maqam system²⁶ of melodic modes and the harmonic minor scale. The arrangements of minor and augmented 2^{nds} within the rows and their resonant timbral effects within the patterns are the common link between the tone rows. The opening solo material is saturated with mixtures and rearrangements of these distinguishing intervallic relationships (the juxtaposition of the minor and augmented 2^{nds} and even melodically arranged clusters). The following examples extracted from the opening through to bar 35 demonstrate segments that contain these relationships.

Ex. 1: (bar 5)



Ex. 2: (bar 8)



Ex. 3: (bars 15 and 16)



Ex. 4: (bars 20 and 21)



²⁶ Arabic Maqam is a system of melodic modes used in traditional Arabic music. The specific relationships between the tones resemble that of the harmonic minor scale. The tone row embodying the intervallic relationships applied within this context is arranged as such (from G): G - A \flat - B - C - D - E \flat - F \sharp - G.

Ex. 5: (bars 31 – 33)

The musical score for Ex. 5 (bars 31–33) is written for Alto Flute (A.Fl.) and English Horn (Eng.Hn.). The key signature has two flats (B-flat and E-flat), and the time signature is 4/4. The Alto Flute part begins at bar 31 with a dynamic of *mp* and a tempo marking of 'ord.'. It features a melodic line with eighth and sixteenth notes, including a triplet in bar 32. The English Horn part enters in bar 32 with a dynamic of *mf* and plays a rhythmic accompaniment of eighth notes, with a quintuplet in bar 33. Both parts conclude in bar 33.

The pitches are extended across the wider extremes of the registral profile with consideration of the shaping of the melodies. The melodic character identifies with the timbral changes that occur as a result of the registral effects. For example, octave displacement is used to break the continuity in the melody line which creates very abrupt motivic formations. The juxtaposition of different sonorities of the same instrument emphasises fleeting and diverse colour transitions.

The original material appears at bar 37 in the second section engaging the entire ensemble while the material is equally dispersed among the instruments. As opposed to this re-composition, the development of the two motifs within the original work is mostly restricted to one instrument. In this case as the material is doubled, broken apart and split across the ensemble as it is re-orchestrated through the resonances of different instrumental sonorities. The diversification of timbre is more fully embraced within the context of this work in comparison to the original and re-composition 2. As a result of the material being divided across the ensemble, rhythm is varied; thus contributing a stronger sense of continuity in this section through to bar 77.

The final section reintroduces the opening material on the English horn contributing to the sense of timbral evolution. The melody progresses through a timbral exchange where the content is restated and varied in a different colour. This material continues before the alto flute returns to conclude the piece with a contrapuntal relationship of instrumental timbral exchanges.

12. ...to a beginning from no end – Re-composition 2

In the case of the second re-composition, *...to a beginning from no end* for baroque ensemble had to be reconsidered as the material could not be treated in the same manner as it was in the other two works in order to achieve particular timbral results. For instance, although the ensemble collectively cannot express the music in the same dynamic capacity, they could extend more widely across the register. Since dynamic variation was limited, careful reconsideration of this variable for shaping and expression was inevitable. So, this mode of timbral expression was possible through controlling the layering of events by altering the density of textures, effectively varying the number of players at given times within the piece. Additionally, because of the different instrumental arrangements of each work, articulations had to be reconsidered in each re-composition nonetheless, as due to their inherent natures, they do not come across in the

same way. This variable part of the processes of recomposing was very much in the interest of timbral exploration. The character of the sound-world of each work is inevitably a result of the natures of the instruments involved and of their combinations regardless of the amount of implemented techniques and expressive timbral devices applied for purposes of controlling overall timbral outcomes. A certain uncontrolled degree of the timbral outcome was due to this factor (innate timbral character of the instruments) which was taken into account in each case.

Examples below demonstrate the opening motif as in the original and in the two re-compositions revealing some of the adjustments that were made during the processes of reconsideration. The original opens with a fluent introduction of the primary material as a piano solo while re-composition 1 presents the material in its second section with additional staccato markings in the oboe line with a pedal-tone-like accompaniment. In the case of re-composition 2, the material is written down the octave due to the sound production and the sonority of this register of the harpsichord. Legato markings are included as a phrasing guide and are not intended to change the inevitable result of staccato articulations that naturally occur from the harpsichord.

Ex. 6: (*...to a beginning from no end* – Original: bars 1 – 3)

Ex. 7: (*Thebes and the Burden of Rulership* – Re-composition 1: bars 37 and 38)

Ex. 8: (*...to a beginning from no end* – Re-composition 2: bars 1 and 2)

This work is unique to the portfolio as it is the only work scored for period instruments. The nature of this particular ensemble distinguishes timbre among this set of three works for

instance, that it includes a bass viol distinguishes the nature of the overall sound-world from that of the others of this set of three works. It employs a separate set of techniques from that of the wind and keyboard instruments contributing different timbral possibilities for complementing the shape of the material. For example, string harmonics are incorporated in this work, generating a timbre which differs significantly from the sonorities generated from the keyboard and wind instruments within this set of works.

Examples 9, 10 and 11 below reveal how material from bars 5 and 6 from the original was recomposed in the two different compositional contexts. Examples 12, 13 and 14 below demonstrate the climactic material from each piece. The illustrations are given here to compare the material and to clarify the previously stated details of how the material is recomposed and how it compares to the original.

Ex. 9: (...to a beginning from no end – Original: bars 3 – 5)

Ex. 10: (*Thebes and the Burden of Rulership* – Re-composition 1: bars 41 and 42)

Ex. 11: (...to a beginning from no end – Re-composition 2: bars 4 and 5)

Ex. 12: (*...to a beginning from no end* – Original: bars 17 and 18)

Ex. 12 shows the original composition for bars 17 and 18. The Oboe part begins with a rest, followed by a melodic line with dynamics *f*, *7*, *3*, and *mp*. The Piano part features complex chords and arpeggios with dynamics *mp*, *3*, *mf*, *mf*, *7*, and *f*.

Ex. 13: (*Thebes and the Burden of Rulership* – Re-composition 1: bars 56 and 57)

Ex. 13 shows the re-composition for bars 56 and 57. The Flute, Oboe, and English Horn parts all play similar melodic lines with dynamics *mf*, *3*, *3*, *3*, *f*, *3*, and *7*.

Ex. 14: (*...to a beginning from no end* – Re-composition 2: bars 43 and 44)

Ex. 14 shows the re-composition for bars 43 and 44. The Violoncello part begins with a rest, followed by a melodic line with dynamics *sfz*, *f*, *7*, *3*, and *mp*. The Harpsichord part features complex chords and arpeggios with dynamics *3*, *7*, and *3*.

In the original composition the two primary motifs only exchange between the instruments on a couple of occasions and that the motivic development in this context is focused within the confines of primarily one instrument restricts the timbre. As this piece is the shortest of the portfolio, it nevertheless places the most limitations on timbral applications. The two primary motifs and structural development support the contrapuntal means by which timbre is realised, as emphasis is placed on counterpoint, isolating intervallic relationships as the only means through which timbre is made manifest. This controls the nature of the sound-world, creating an identity that is solely based on intervals and interval arrangements (counterpoint).

That two pieces were written as re-compositions of an original was for the purpose of exploring and rediscovering timbres while applying the same material in different instrumental contexts. The original material is altered through the processes where it is extended, readapted for the

ensembles and so as to fit different overall compositional forms. Regarding form for example, what sets the material in re-composition 1 apart from the original and re-composition 2 is the new material in sections 1 and 3, harmonic content and overall form. The structure of this piece features the original material between two solo sections of two less dense and harmonically altered sections.

Having redesigned a complete composition twice within different instrumental contexts, of timbres with different instrumental combinations presented in each case presents some unshared possibilities. This was primarily due to the fact that each ensemble consisted of different instrumentations. Fundamental restrictions were advantageous in each case as they were conducive to the individuality of the timbre and orchestration of the material in each context. As a result, three works based on the same material do not identify with the same timbral results and thus, they produce different overall sound-worlds.

Conclusion

Each composition is concerned with the development of expressive narrative musical structures that are achieved through the creation of distinctive sound-worlds within two specific areas of compositional activity: original compositions and re-compositions. Although the individual compositions stand as unique and case specific, the pieces share a preoccupation with sound-world acoustics that prioritise expressive narrative timbral devices which are manifested through applications of counterpoint and orchestration. Each case was realised through different organisations of the sub-contents of these two primary components, i.e. instrumentation, harmony and a structure - in short the means through which timbres were constituted and the acoustic landscape was shaped.

The pre-eminence of sound colour was the common basis of my approach to these compositions and all creative executions contribute to the sound-world. Furthermore, they derive as structurally internal collections of timbres forming expressive narrative devices within the acoustic landscape. As a result, these compositions represent a diversity of strategies conducive to the realisation of timbre and a sound-world that embodies instrumental character and versatility, and thus each encompasses a different organisation of expressive narrative timbral devices.

In the interest of colour modification the employed techniques modify timbres through sound manipulation, distinguishing and controlling them and in turn adding dimension (combinations or layers of different sonorities) to the sonic planes while ultimately shaping the envelope of the sound-world. Additionally each shares an interest in incorporating a high degree of contrast as a means for position and accentuating colours within contrapuntal (harmonic) relationships and through the relationships of the applied technical sub-categories of orchestration.

As the contents within this portfolio are the structural manifestations of different acoustic timbral profiles, the form of each work is the consequence of compositional methods that prioritise expressive narrative timbral outcomes.²⁷ Indeed, each piece consists of content which is realised, ultimately, as a means by which innate sonorous infrastructures are controlled and articulated in time and manifested as a reality. Timbre here is not a result of the content or structure of the work, rather it was preconceived as a compositional idea which inspires content such as rhythm, articulation, texture, instrumentation, harmony, silence and dynamics. The forms of the pieces and shapes of their overarching timbral profiles are very much reliant on one another in that timbre, on its own, does not exist as an abstract concept that excludes form.

²⁷ François, Jean-Charles, 1991, 73.

Articulated in time, it is realised and assumes timbral reality, and therefore it is always a particular self-contained manifestation at the time in which it occurs.²⁸

²⁸ François, Jean-Charles, 1991, 54.

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